

BOOT & SHOE REPAIRING

FOR AMATEURS

The Amateur's
Guide to
Professional
Workmanship



FOULSHAM'S "DO IT YOURSELF" SERIES



BOOT AND SHOE REPAIRING

FOR
AMATEURS

Antique Pattern Library

THE Do It Yourself SERIES

BOOT AND SHOE REPAIRING

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BY
G. NORMAN



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PREFACE

I KNOW more than one home in which a sum has to be set aside each week to pay the boot-repairer's bill. In the course of a year, this means far more than many families can reasonably afford to spend on footwear, yet strong boots are an absolute necessity if we are to avoid doctor's bills.

There is a very simple solution to this family problem. Learn how to mend boots, and you will save three parts of the repairer's bills.

It is by no means a difficult art to acquire. Make it one of your hobbies, and keep count of the money you save in the first twelve-months. You will be surprised and pleased. The necessary tools are few, and the instructions which follow will give you all the guidance you need.

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CONTENTS

	PAGE
THE MOST ECONOMICAL WAY TO REPAIR BOOTS	9
LEATHER FOR REPAIRS	13
THE REPAIRER'S EQUIPMENT	17
SETTING-UP HEELS	22
HALF-SOLING WITH RIVETS	32
HAND SEWN HALF-SOLING	41
FINISHING SOLES AND HEELS	49
PATCHING UPPERS	54
MISCELLANEOUS HINTS	58

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BOOT AND SHOE REPAIRING

THE MOST ECONOMICAL WAY TO REPAIR BOOTS

THE reason which prompts the amateur to mend his own boots is, presumably, to save money. There is no surer way of doing so than to put a rubber sole on a boot when it is new, replacing the rubber as soon as it wears through; before, in fact, the leather has been affected. If this plan is followed, the boot will last in a water-tight condition for a very long time, and the expenditure on rubber soles will be small. Also, the work involved will not tax the skill of the least ingenious handyman—it is simplicity itself. Another point to recommend this method is that no special tools need be used.

The soles can be bought for as little as a shilling a pair for men's sizes, or a trifle less for women's and children's. More can be paid for higher grade rubber; but it is doubtful whether the extra cost is worth it. The heels cost fourpence and sixpence per pair, according to size.

In buying the soles and heels, it is not much use going by the size as the rubbers vary considerably, according to the maker. The best plan is to cut paper patterns of the sole and of the heel of the boot, to take them to a grindery shop and there select a good fit.

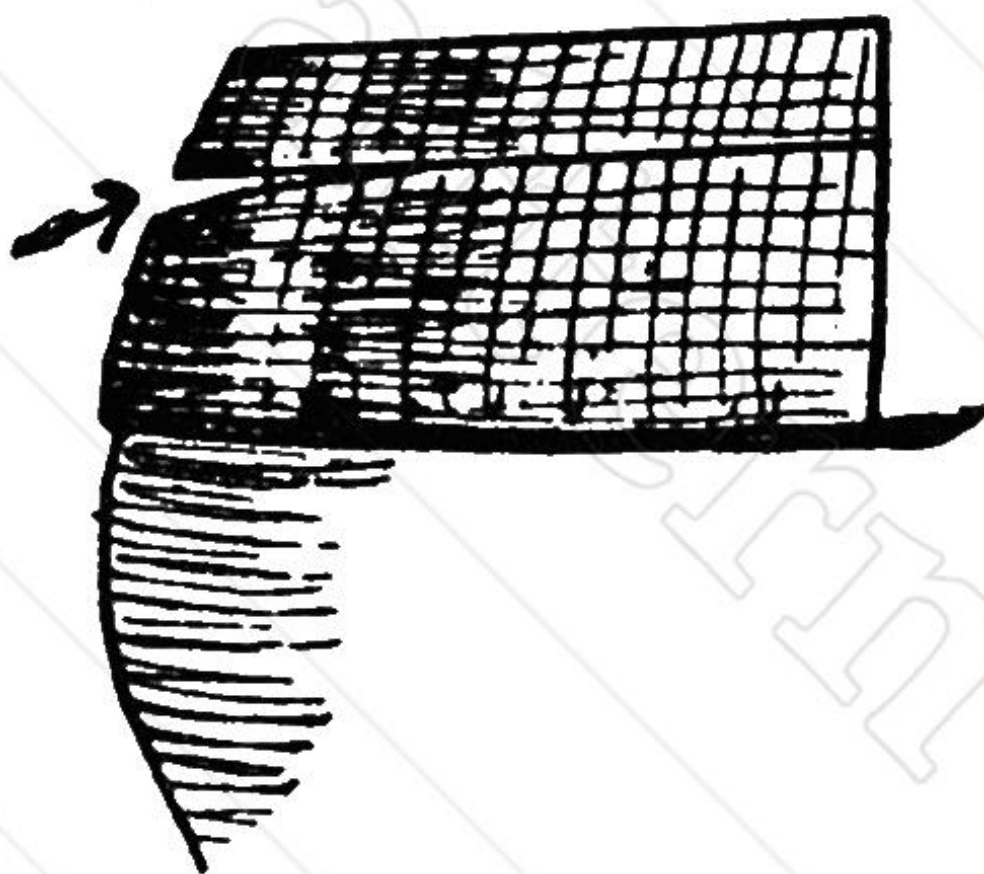
Remember that the pattern indicates the size of the under and not the upper face of the rubber sole. When

10 **BOOT AND SHOE REPAIRING**

the edge is bevelled, the two faces are not equal. If an exact fit cannot be found, purchase the next larger size. Trimming can be resorted to, though it is a makeshift, at best.

If heels are to be put on, do not wear the boots before they are fixed. Even a single day's wear is liable to take a little off a part of the edge, and when the rubbers are fixed, there will be a slight gap which will prevent a good workman-like finish.

The rubber soles may be put on without any preparation. *Nevertheless, it is a very wise thing to*



THE RESULT OF WEARING BOOTS BEFORE FITTING A RUBBER HEEL

rub a candle, thickly, all over the leather, then to warm it in front of a fire and continue with a second rubbing. The paraffin-wax will make the leather absolutely impervious to wet. If any wet should work its way in between the rubber sole and the leather, as it may do on a very rainy day when the rubber is beginning to wear and lose shape, none will penetrate to the feet.

When renewing a rubber sole, the candle should be worked well into all the old screw or rivet holes. Unless they are clogged with the wax, water can force its way up these holes and make the feet damp.

ECONOMICAL WAY TO REPAIR BOOTS 11

The sole can be fixed with rivets or screws. If rivets are to be used, the boot must be put on an iron last, so that their tips may be turned down when hammered. For screws, which we think preferable, no iron foot is needed. Use quarter inch screws and, with most boots, there will be no fear of them troubling the foot.

When about to fix the screws, ram the toe of the boot full with a soft cloth and place the boot, sole upwards, on an old cushion. You can then work away at the job without damaging the puff of the toe.

Begin by getting the rubber nicely arranged in position at the toe and fix it there with one screw. The edge of the rubber should come exactly up to the edge of the leather, neither short of it nor beyond it. This is important, because, if it is otherwise, the wearer is liable to catch his toe in something and trip over.

The first screw being fixed, the rubber sole should be moved about until it covers up the leather sole properly. When this has been done, another screw is driven in at the centre point of the instep line. The remaining screws are fixed around the edges with about half an inch distance between them.

A certain amount of difficulty will be experienced in getting the small screws to enter the rubber. As soon as the screwdriver attempts to force them home, they jump out of position. All this trouble may be overcome if the holes for the screws are first made with a bradawl. Another way is to grip the screw in the bend of a fine hair-pin and hold it erect whilst the screwdriver is forcing it in.

Heels should be put on with three quarter inch nails. For other particulars, study the chapter specially devoted to heels.

If the rubber is an exact fit there is no need to trim it; but trimming will have to be done sooner or later. The best way to pare off the surplus material

12 **BOOT AND SHOE REPAIRING**

is to stand the boot down on something flat and then to cut with a pointed knife, from above, using the edge of the leather sole as a guide. Keep the blade perfectly upright and do not let it turn under the sole slightly as it has a desire to do. If it does turn under, the rubber will be cut too small and a bad job will be the result.

When the trimming is finished, it may be necessary to rub the edges with a medium surfaced glass-paper to get them nice and smooth. Do not attempt to finish off with heel-ball, as is used for leather edges. The heel-ball cracks and falls away when applied to rubber and is of no use whatever.

Rubber soles can be obtained in various styles. The "all-over" sole, which covers the entire face of the boot, is far the best to buy. A second kind has a V shaped slit up the centre. By widening or compressing the V, it is possible, within limits, to make the edge of the rubber coincide with the edge of the boot. This feature is helpful; but the opening in the centre allows water to penetrate between the two soles and, on that account, is bad. A third kind has a double curve at the instep with a circular cut-out area between the two curves. The objection to the second shape applies here, also. The only advantage of this kind is that the soles are light and are, therefore, selected for ladies' boots, when the wearer refuses to walk in heavy foot-gear.

Always see that the rubber comes well down to the instep. It should cover the leather instep exactly or fall short of it no more than a quarter of an inch.

Be very careful to fit the left sole to the left boot and the right sole to the right boot. Both soles are not alike in shape.

LEATHER FOR REPAIRS

FEW people can tell good leather from bad. Consequently, it is more than likely that, when the amateur takes up boot-mending as a pastime, he will be largely at the mercy of chance, as far as his purchases of leather are concerned. Knowledge comes very quickly, however, and when the novice begins to study one brand of tanning and compare it with another he will soon learn which is the better quality.

GOOD LEATHER *v.* BAD

Accordingly, the quickest way to get to know the different grades of sole leather is to purchase various pieces, each small but large enough to do a repair, and then to watch how they withstand wear and tear. Some leathers will last many months, whilst others will lose perceptibly in quality during the first wet day. If a small cutting has been saved of each, it will be possible to turn to them and formulate opinions as to why A has good wearing qualities and why B becomes spongy and useless when subjected to a little wet.

Another reason why small quantities, only, should be bought at the outset, is that the loss is not great when a piece of poor material has been accepted. Think of the tragedy of buying, say, an entire bend and then finding that it did not resist water! If a piece sufficient for doing only one pair of boots turns out badly, others like it can be avoided in the future.

It ought to be noted very particularly that there is a good deal of rubbishy sole leather on the market,

14 BOOT AND SHOE REPAIRING

which is really useless for serviceable wear. Much of it is a composition and not genuine hide. It is made of leather pulp and other materials, mixed with glue, and then rolled out to resemble real hides. Of course, we are not suggesting that all composition leathers are bad; some are very good, but far too many are worthless.

The way to tell a good piece of hide, suitable for soles, cannot be learnt from a book. Actual experience is the main thing. But it is possible to give the amateur, here, a few general hints which will put him on the right road. In the first place, the feel and colour of the leather are some indications of its character. As far as colour is concerned, a dull, deep brown is seldom as useful as a light chrome-brown. Elasticity is another test. If a piece large enough for a sole bends easily, and then, when released, springs smartly back into its normal shape without showing any crease, it is most likely to be of good quality. On the other hand, should it refuse to bend readily, and you think it liable to crack, or should it double over too easily and not fly back when the pressure is removed, it is not stuff that can be recommended. Inch for inch, heavy leather is not so serviceable as less weighty leather, the thickness, of course, being the same.

When a good piece of hide is selected, it ought to be carefully looked over, both back and front, to see that it is sound. During the various processes, a hide may be accidentally slashed, and a piece damaged in this way will often be divided up and the part with the cut sold cheaply. Of course, if the cut comes where the middle of the sole is bound to fall, the piece is dear at any price.

THE WARBLE FLY

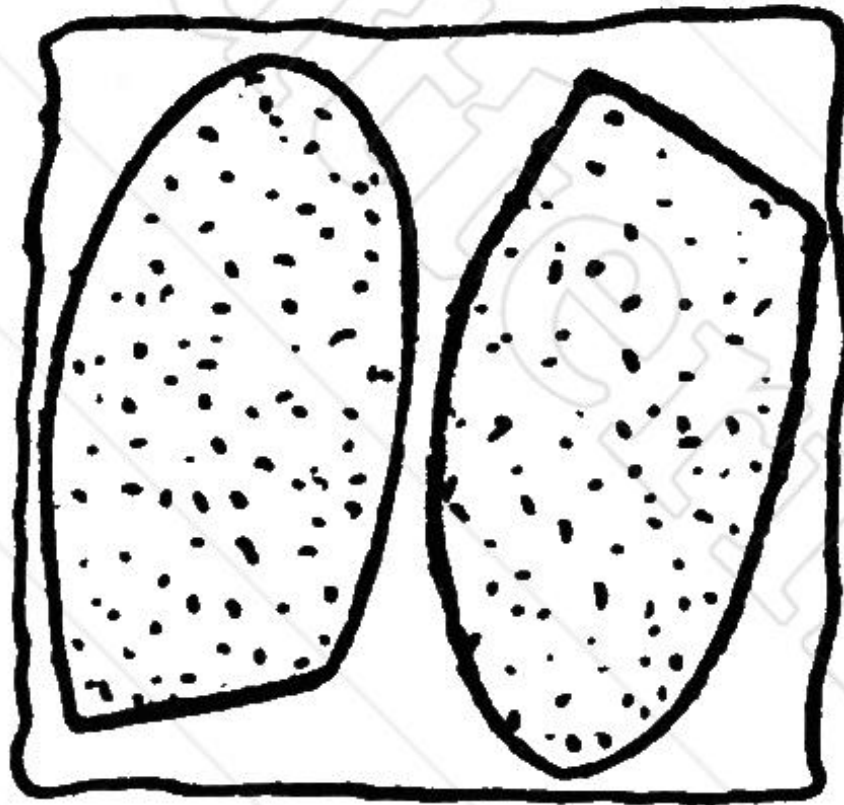
Another thing to look for is the mark of the warble fly. This destructive creature burrows through the skin of cows and causes a lump to form. Naturally,

LEATHER FOR REPAIRS

15

when the cows are slaughtered and the skins are made into hides, the leather is perforated at the point where the fly entered. The tanner can do much to obscure the hole but he cannot make it watertight. The damaged spot absorbs the tanning a trifle more than elsewhere, and, consequently, its presence is proclaimed by a small dark circular-shaped patch. After a short period of wear the damaged area will break up and leave a hole in the sole.

The amateur should not console himself, when a pair of soles turns out badly, by arguing that it



IT IS USUALLY MOST ECONOMICAL TO CUT THE SOLES OUT OF A PIECE OF LEATHER IN THE MANNER SHOWN HERE

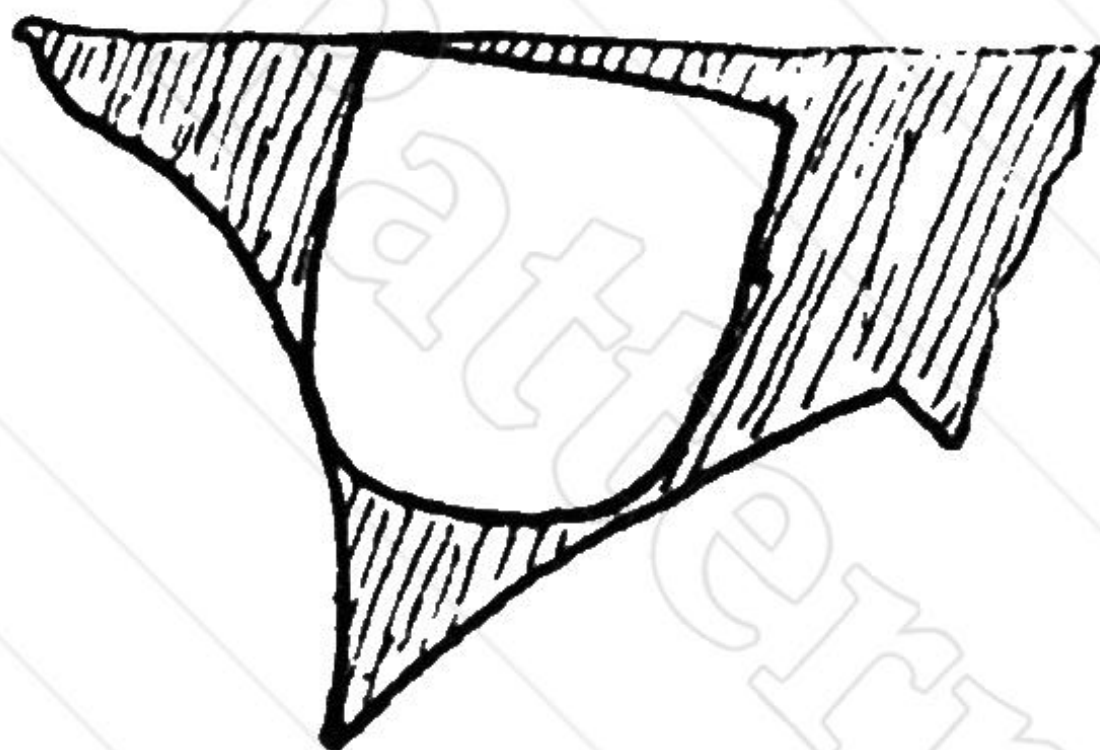
does not matter because new soles can take the place of old ones. Every time a pair of boots is re-soled, it takes something off the life of the uppers, since they have to suffer much wrenching and pulling about.

As far as leather for the uppers is concerned, the amateur boot repairer will not want a great supply; but what he does require will be a varied assortment of small pieces of different weights and textures. He will need these for patching, not only boys' but men's and ladies' boots. He can buy a handful of mixed cuttings at any grindery shop for a few pence, sufficient to last him a year or more.

16 **BOOT AND SHOE REPAIRING**

How to ECONOMISE

Leather is not so cheap that it can be wasted with impunity; especially is this the case with sole leather. Accordingly, a piece should never be cut until the most economical way of doing it has been thought out. Naturally, each case must be determined individually; but, generally, a saving is effected if the toe of one sole and the instep of the other are



WITH A LITTLE SCHEMING, IT IS OFTEN POSSIBLE TO CUT A PIECE FOR A HEEL OUT OF THE V SHAPED LEATHER THAT IS WASTED BETWEEN TWO SOLES.

placed in line. The extravagant way is to fit the two toes and the two insteps together. The pieces that are trimmed off should not be thrown away as useless. With a little scheming, it will often be possible to get enough for a heel out of the V-shaped piece that is cut from between the two soles, and even the still smaller fragments will come in for under-surface repairs. They should all be stored in a box until required.

THE REPAIRER'S EQUIPMENT

A LARGE number of costly tools are not needed for boot repairing. In fact, it is possible to do a good deal of mending without any tools at all beyond those found in the usual home. Nevertheless, the wise amateur will not restrict himself too much, and he should make a point of getting the following



A COBBLER'S HAMMER

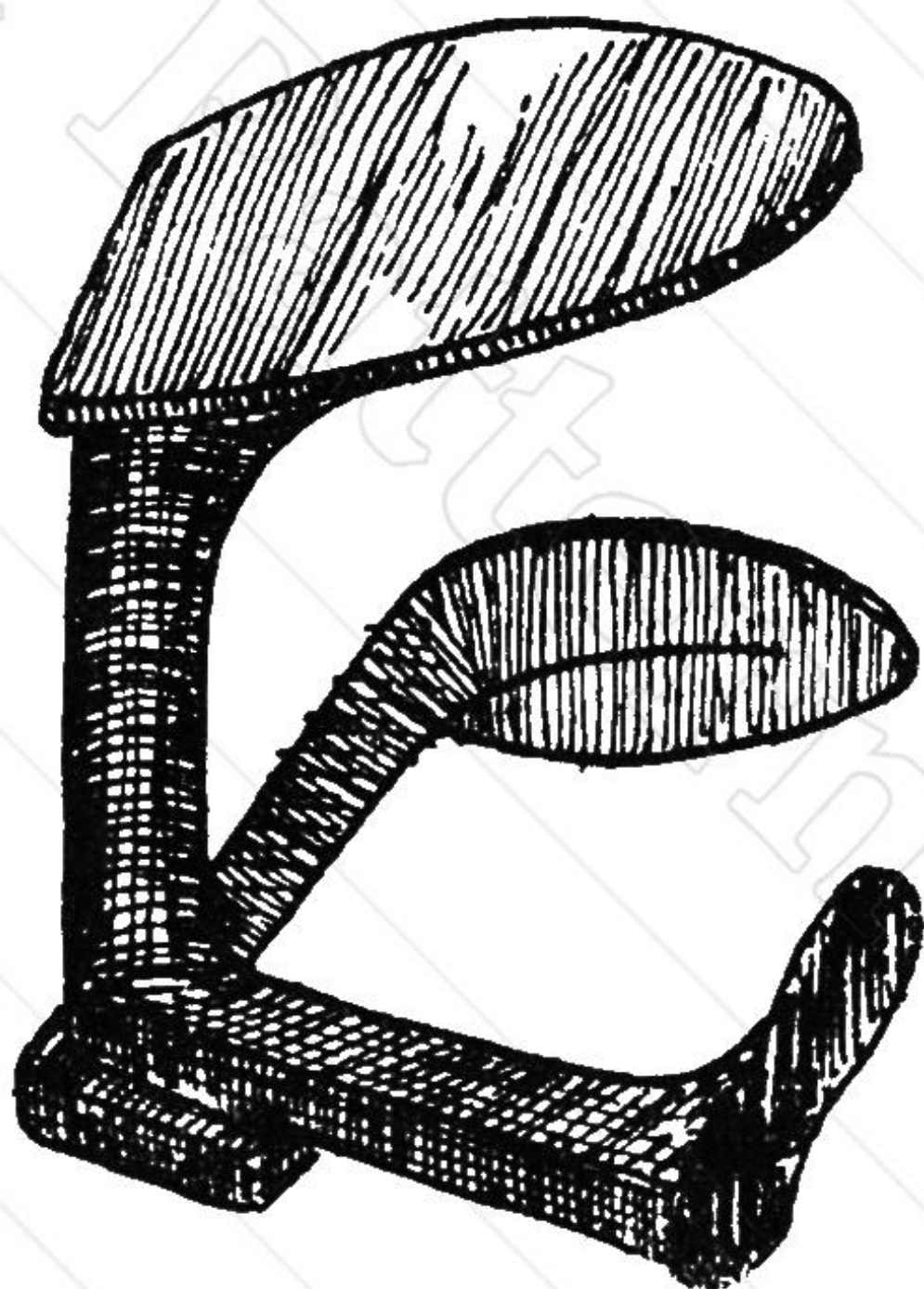
equipment as early as possible in his career. It will help him to do better work.

A Cobbler's Hammer.—This is a hammer with a large flat head. Not only is it easier to drive the rivets in straight with this hammer than with one possessing an ordinary head, but the flat disc is useful for beating leather, a job described later.

A Foot Last.—The professional repairer uses a metal last of the same size as the boot, when he rivets

18 BOOT AND SHOE REPAIRING

on a sole. Accordingly, he has an array of lasts of different sizes. The amateur cannot hope to be so well equipped; nor need he be, because a "three-way" metal foot will answer almost every purpose. The largest foot serves for men's boots, the medium foot for the shoes of ladies; whilst the smallest foot does for children's shoes. Usually, the smallest foot is also provided with a shaped heel which serves



A "THREE-WAY" IRON LAST

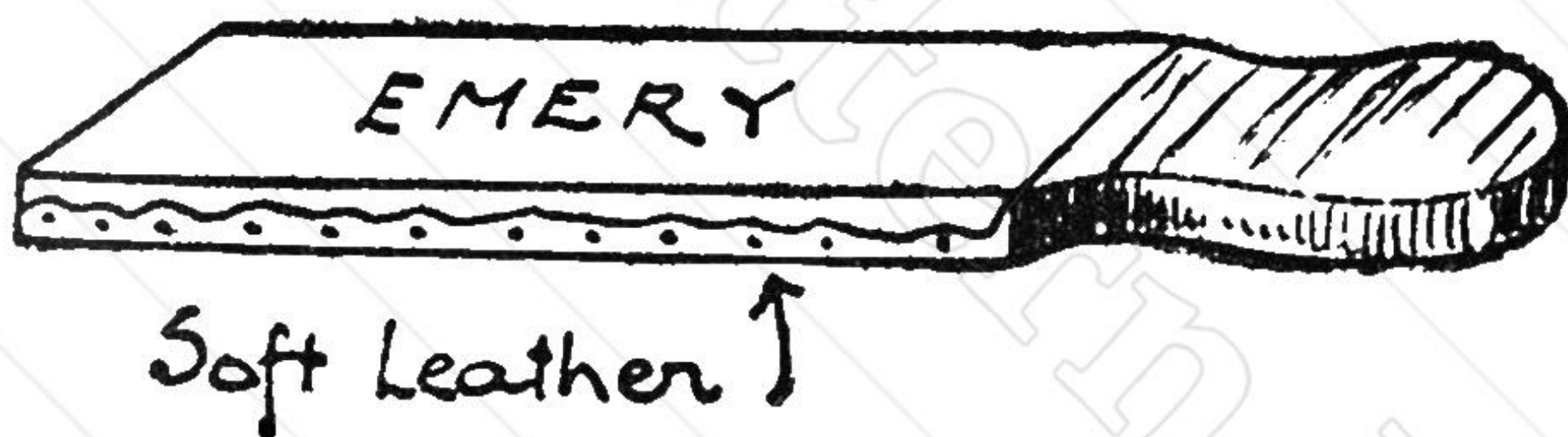
for a heel of any size.. Thus one "three-way" foot will do for practically all the boots and shoes of a whole household.

A Cobbler's Knife.—This is needed for cutting up leather, for trimming the edges of soles, etc. It is merely a pointed blade in a cheap wooden handle. It is mistaken economy to try to do the work with an ordinary pocket-knife or a kitchen knife. The right pressure cannot be obtained with these; and,

THE REPAIRER'S EQUIPMENT 19

since a useful article may be purchased for sixpence, it is just as well to get one at the outset.

A Strop.—However good the knife is, it will be quickly blunted with the leather it is required to cut, and, consequently, it will need constant sharpening. A good strop can be quickly made at home. Take a piece of wood, about eighteen inches long, two inches wide, and an inch thick. At one end, carve a short handle. Then stretch over one of the faces a piece of emery cloth, and over the other, a strip of smooth, soft leather. Overlap the two coverings at the edges of the wood and fix them by means of a row of nails at each side. The emery



A COBBLER'S STROP

will put a fierce edge on the knife and the leather will give it a smooth finish.

When either of the coverings wears out, it can be renewed very easily.

A Pair of Nippers.—Nippers or pincers will be a very necessary tool, especially at the outset of the amateur's career, when the rivets will seem to take a delight in following any course but the right one. They will then have to be pulled out, and the nippers are just the thing for the purpose. For ripping off a sole they will also be required. It is best to have one pair with sharp cutting jaws and another with the jaws blunted. If only one pair is bought, those with cutting jaws are perhaps a trifle more useful than the others.

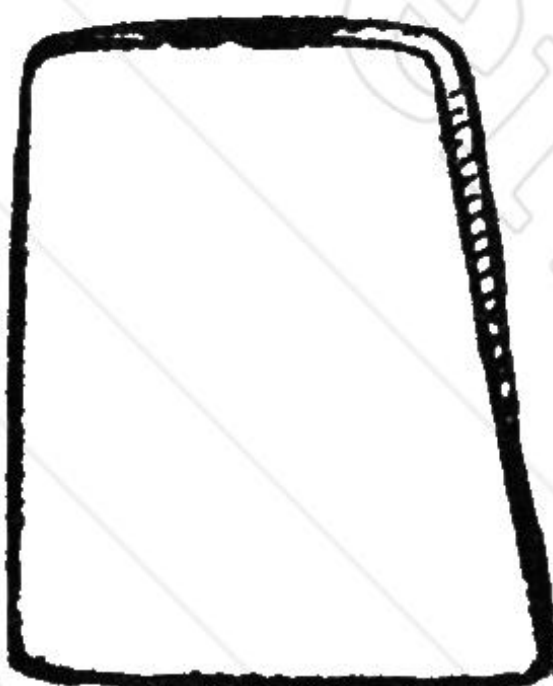
BOOT AND SHOE REPAIRING

A Rasp.—This is a shoemaker's file. It is very useful for smoothing round the edge of a new sole, and for giving it the proper shape. The work can be done with other implements; but the rasp does it more quickly, and thus saves time and labour.

A Scraper.—This is a small piece of steel, very much resembling the blade of a safety-razor. There is only one cutting edge, and this is not nearly so sharp as the razor blade. It is used for shaving off



A COBBLER'S RASP



A SCRAPER

very small fragments of leather round the edge of the sole, when the rasp has got away most of the surplus.

Should a scraper be omitted from the equipment, its work can be performed equally well by a straight edge of glass. An old quarter-plate negative does the scraping quite satisfactorily; but there is always the fear of cutting the hand if the glass should break.

Glazing Irons.—These are required for working heel-ball around the edges of a new sole, and so providing a professional finish. There are many different shapes of irons. Some have an almost

THE REPAIRER'S EQUIPMENT 21

flat head, others a semi-circular head, while others, again, have a flat head with an upstanding flange to guide the iron round the welt. The first pattern is most generally useful.

A Pointed Awl will be necessary when repairs to uppers are taken in hand.



▲ GLAZING OR BURNISHING IRON

A Bradawl is handy for providing the holes into which brads are to be driven.

In addition, a supply of sole leather will be needed, as well as some steel rivets, some sheets of medium grade glasspaper, and, finally, two or three pieces of heel-ball. Brown as well as black heel-ball will be needed if boots of both colours are to be repaired.

SETTING-UP HEELS

THE amateur boot-mender will be well advised to become proficient in setting up heels before he attempts to deal with soles. There are three good reasons for beginning with them. First, they are much easier to do than soles, largely because they offer a firmer base to work upon; second, there is less likelihood of damaging the boot when dealing with a heel than with a sole, and, third, there is the mercenary reason. Heels wear down much more quickly than the rest of the boot, and more money can be saved by repairing them than by renewing soles.

REMOVING THE WORN LEATHER

AN examination of any leather heel shows that it is made up of a number of layers or lifts, and that, when it is worn, one or perhaps two of the lifts are impaired, the others being untouched.

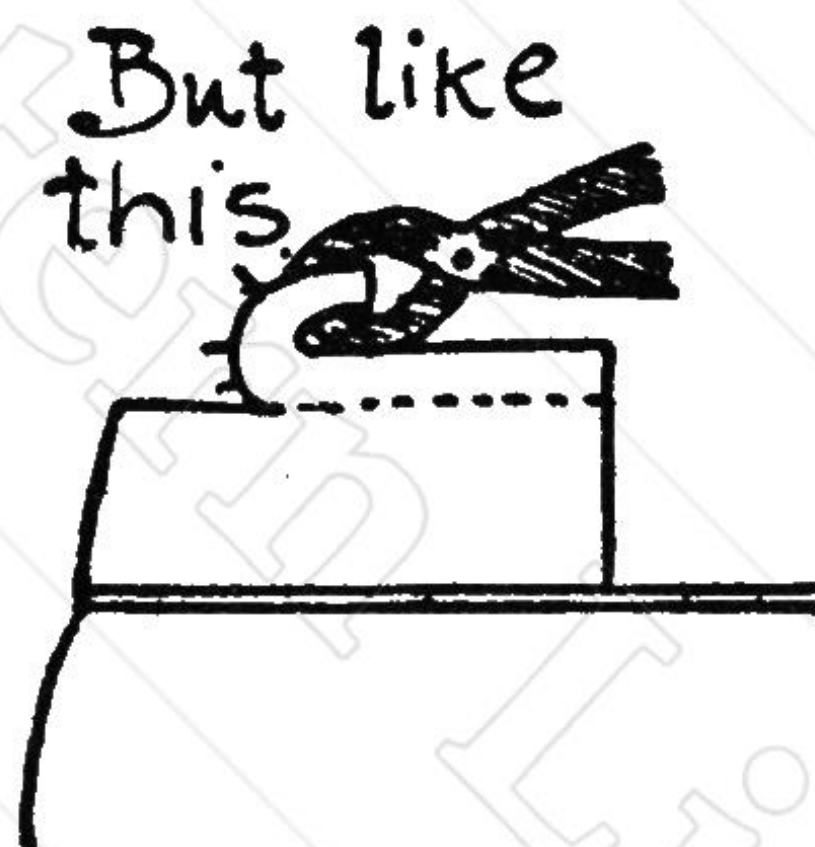
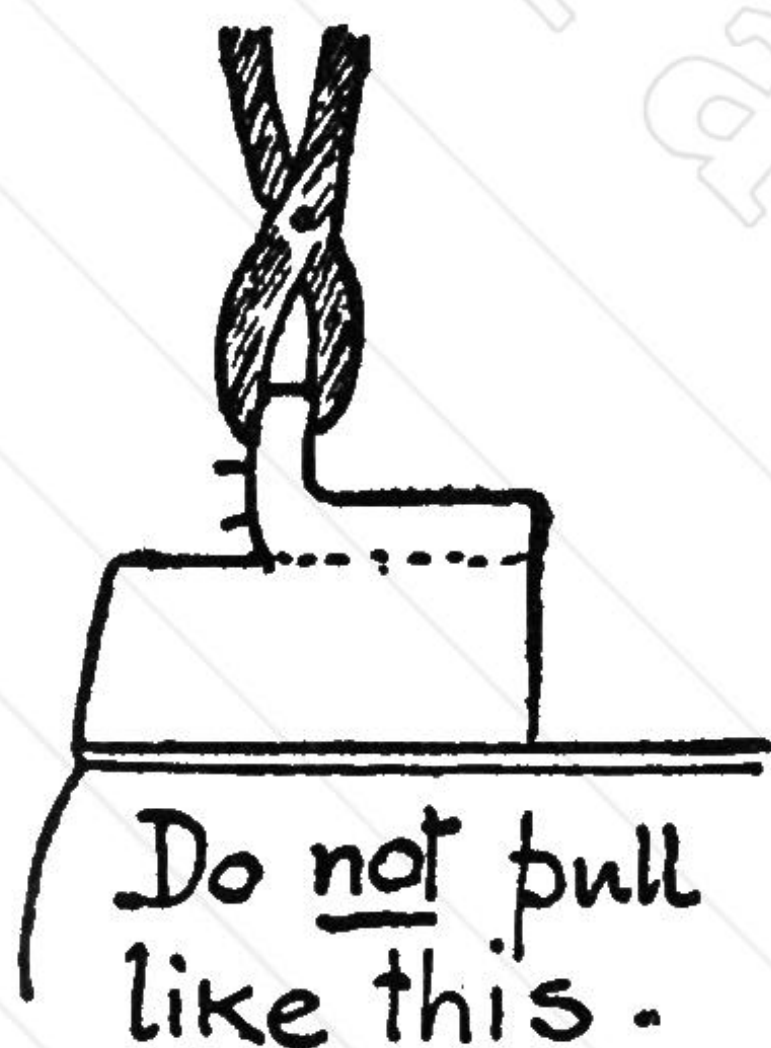
To repair a heel, the first thing is to remove the top lift, the one in fact that comes in contact with the ground. It will pull away fairly easily, because heels are built up with the knowledge that the upper layer of leather must be changed occasionally. To get off this first layer, push a screwdriver under the worn part and prize up some of the leather. Then, when enough has been raised to get a good grip, take the pincers and draw off the entire layer.

In pulling, it will be very easy to loosen the whole heel and even to make it part company from the upper. If the upper is held in one hand and the

SETTING-UP HEELS

23

pincers are tugged with the other, then it is more than likely that the heel will be loosened. Accordingly, some other method must be adopted. The best plan is to put the thumb on the heel, then to grip the whole of the boot with the rest of the left hand and to pull with the pincers, using the right hand. The pulling ought not to be directed away from the boot; instead, the pincers should merely endeavour to roll back the leather that is to be removed. Two sketches illustrate this important point. The first shows how the operation should



not be attempted; while the second gives the correct way. It will be seen from the latter sketch that the lower jaw of the pincers is pressed down on the flat face of the heel. This should be done for two reasons—first, a good leverage is afforded, and, second, it helps to counteract the pull which might otherwise loosen the heel.

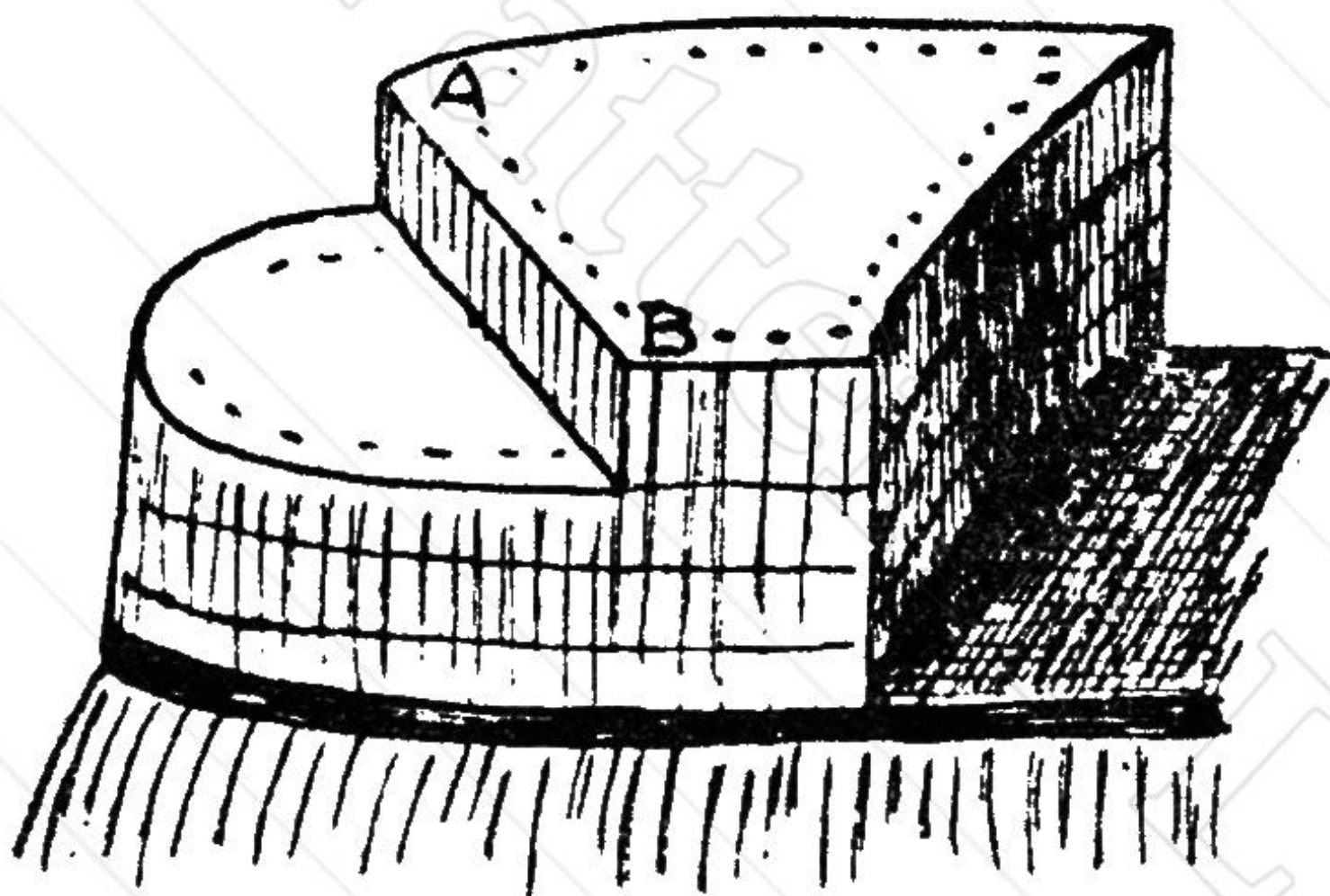
The top lift being removed, it is probable that a row of worn, upstanding rivets will be left behind. Each must be drawn out, a matter that will take no more than a few minutes. The next step is to examine the heel to see whether the second lift, which is now

BOOT AND SHOE REPAIRING

uppermost, has suffered any wear. If it is intact, the new piece of leather may be put on without any further preliminaries. But if it has been worn down at all, one of three courses is open to the repairer.

(1) When the wear is extremely slight, nail a thin piece of leather across the bevelled part and shave its edges, so that it does no more than make the surface good, in preparation for the new lift.

(2) When the wear is of moderate amount, make a vertical cut through the lift and then pull away the whole of the worn part. The illustration shows



CUTTING A "STEP" IN THE SECOND LIFT

exactly what is intended. The cutting A B is done by placing a shoemaker's knife across the heel and hammering the blade through the leather. Another plan, suitable for amateurs, is to do the cutting with a small saw, keeping the teeth horizontal.

The worn leather being cleared away, a new piece is fitted in its place and the top lift follows on afterwards.

Note particularly that, before the top lift is put on, four or five rivets must be run along the line indicated by A B in the diagram.

SETTING-UP HEELS

25

(3) When the wear has considerably impaired the second layer, the best plan is to rip off what remains of the leather, in a manner similar to that described for the top lift. It will not be very easy to do, because the second lift is not fitted with the idea of it ever coming off. If it is hard to loosen, do not become impatient and tug too vigorously, or the heel may fall to pieces.

When the lift has been stripped off, it will be better to hammer the upstanding nails over than to draw them out. They may form part of the construction of the heel, and if taken out, the heel cannot do otherwise than collapse.

From these remarks, it is clear that to neglect heels until the second lift becomes worn, is to add unnecessarily to one's work. Make it an invariable practice to do the necessary repairs before the top layer is worn through at any point.

FITTING A NEW LIFT

Rubber Heels.—The worn leather having been removed, it must now be replaced by new material. If the boot is not needed for heavy wear, a rubber heel offers two important advantages over leather. It is noiseless, which is a great consideration, and is not so jarring to the spine, thereby causing less fatigue.

There are many different kinds of rubber heels; but either the "all over rubber" or "half leather and half rubber" kinds should be selected. The pattern which consists of a revolving disc is not advised, as it is inclined to cause the wearer to slip up.

With a rubber heel, there is very little fitting needed. The proper size is obtained and it is fixed with three-quarter inch nails. As a rule, the pattern indicates where each nail is to come, but, usually, it will be better to drive in an additional nail between each nail hole. Be very careful to see that the two square corners are held down properly. If they are at all loose, run an extra nail in close to the corners.

26 **BOOT AND SHOE REPAIRING**

Nails, three quarters of an inch long, ought to be satisfactory for rubbers, but if it is felt that they are too short to do their work properly, there is no reason why one inch nails should not be used. They will do no harm to the boot.

Leather Heels.—Though a rubber heel is recommended for general wear, it is certainly not equal to leather where hard usage is concerned. A school-boy, for instance, would make quick work of a rubber heel in an average school playground, and so would a man whose duties required him to traverse a good deal of rough ground.

When leather is to form the top lift of a heel, the first thing will be to look through one's supply of pieces and find something that will do for the purpose. As a rule it should not be necessary to cut into a large strip when a heel is needed. A suitable odd bit ought to be forthcoming.

Having found a piece, cut it roughly to shape and then it must be "worked." To do this, soak it for five or ten minutes in water, then dab off the surplus moisture, and beat it with the hammer on the flesh or under-side. Cobblers place the leather on a large stone and hammer it there; but a flat piece of wood will do almost as well. The beating should be powerful and even; but it ought not to bruise or cut the surface. It will certainly flatten the leather and spread it out of shape, somewhat; but that is what is intended.

The amateur may be at a loss to see why the process of "working" is necessary. The reason is this; if the repairer does not do it, the wearer will, on the first occasion he goes out into the wet. And, if the flattening and spreading takes places on the boot, the heel will never be of the proper shape again.

The best way to begin riveting is to put one rivet in the centre of the heel. When it has been driven home properly, it is advisable to look carefully all round the edge to see that the leather covers the

SETTING-UP HEELS

27

heel at all points. Then, put in the second rivet in the middle of the straight side, and continue, after that, in any desired order.

At first, it may be found a little difficult to get the rivets to run into the leather vertically. Some of them will want to take a slanting course. Those that do will not only look bad but they will not hold with sufficient strength. To overcome this trouble, prick holes with an awl and stand the rivets, one by one, in them. A good downward blow with the hammer will then drive them in properly. It is not a bad plan to steady the rivet with the thumb and index finger of the left hand whilst it is getting a grip in the hole.

If a rivet runs into the leather on the slant, pull it out with the pincers. Do not put a fresh rivet in the entrance of the same hole and hope that it will go in vertically. Ten chances to one, it, too, will take a slanting direction, because it will use the passage formed by the first rivet. The proper thing is to pull out the first rivet and then prick a way for the second one with the awl. Use the old entrance, but direct the awl vertically downwards. The rivet, then, will have no chance of being wayward.

As a rule the rivets should be placed about an eighth of an inch apart, and they should come no nearer to the edge of the heel than a quarter of an inch. Wherever the tread is most likely to be heaviest it is often advisable to put them so close together that the heads just touch. This adds to the effective life of the heel.

It must not be forgotten that the leather was put on wet; it still will be when the riveting is finished. The next step is to trim up the edges, but as this cannot be done well until the leather is dry, the boot should be put on one side and left for a while. It may seem a small matter, but none the less, the state of the leather during the cutting and trimming process makes a big difference. Dry leather cuts

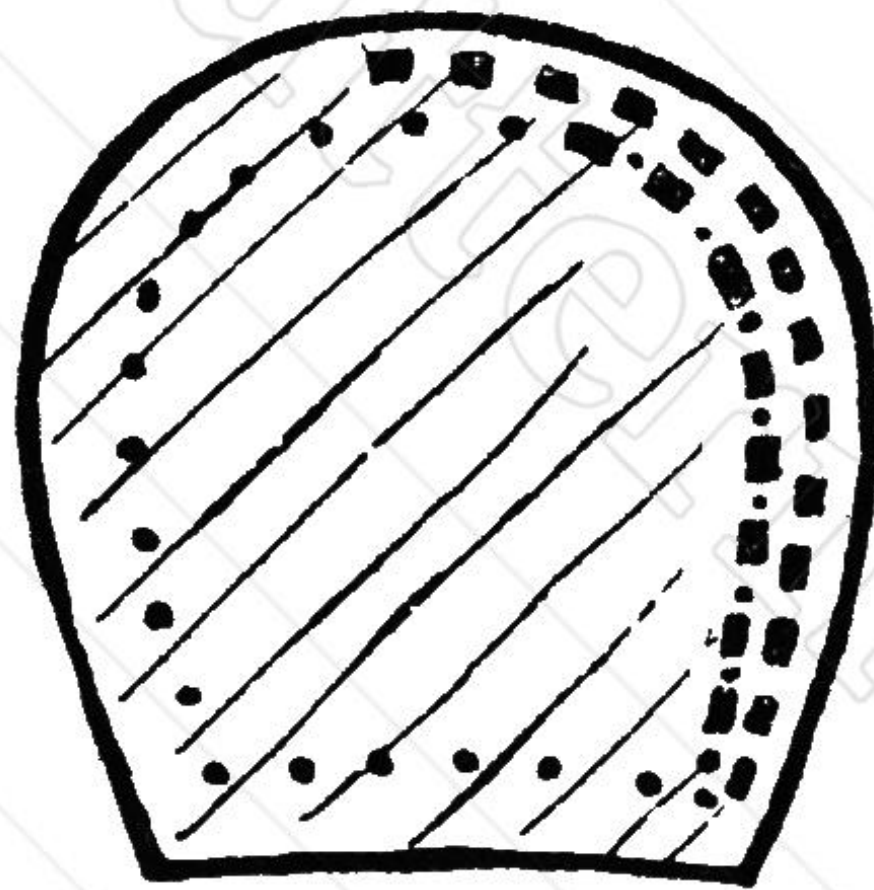
28 **BOOT AND SHOE REPAIRING**

with a pleasing crisp sound, but the knife pushes wet leather out of shape before it manages to cut it.

The finishing of the heel is dealt with in a separate chapter.

BRADDED HEELS

When a heel is required for hard wear, such as school-boys are likely to give it, brads are usually run into the leather. The brads are of a special kind, known as cut-bills or French brads, and they



A "BRADDED" HEEL

are not the things used for, say, fixing up a picture frame.

A shoemaker's brad is a small triangular wedge of iron with a blunt tip. Accordingly, it is impossible to hammer one into the leather unless a hole is first provided for it. The hole is made with a rather stumpy-pointed awl.

When the leather has been properly riveted and trimmed accurately to shape, but not polished and finished off, the brads can be inserted. First make one or two holes between each rivet on the half of the heel that takes most of the particular individual's

SETTING-UP HEELS

29

wear, then fix the brads. Next, make a second line of holes with the awl, preferably between the first line and the outside edge; then run in the brads. If there is no room for the second line to fall outside the first, it must of necessity be placed inside. Be very careful, however, when the holes are rather close to the edge, that the brads do not split the leather.

It is unnecessary to brad the whole outline of the heel—where the wear comes most will be sufficient.

FIXING A HALF TIP OF IRON

For excessively hard wear, there is nothing to equal a half tip of iron, placed on the edge of the heel. It will take months to wear through, and all the time, it will be giving good support to the rest of the boot. It is apt to be noisy, however, and not the sort of thing that one wants running over the best carpets.

The preparations for an iron tip are exactly the same as for any other form of heel, but when the top lift of leather has been cut roughly to shape, it is laid on the heel and the tip is put on top of it, just where it is to be nailed on. A pencil is run round the inner edge of the iron and the mark on the leather is where the cutting has to be done. An experienced hand does not use a pencil; he merely gives the iron a blow with a hammer and the iron makes a sufficient mark.

Some repairers fix the iron and then place the leather on top of it. They follow this by giving one or two taps on the leather with the hammer, and the mark, made in this way, shows where the cut must come in order to provide a proper fit. The rest of the work is similar to that described for ordinary heel fixing.

WOODEN HEELS

A professional boot-repairer would rather set up a dozen leather-built heels than one wooden one,

30 **BOOT AND SHOE REPAIRING**

especially if the wear has gone so far as to attack the wood. When this has occurred, the best course is to be drastic, and to chop or saw the wood so that the face of the heel is level. An under layer of leather is then put on to compensate for the wood that has been cut away, and this is followed by a top layer, in the ordinary way.

In dealing with a wooden heel two points should be carefully noted. First, use nails that will not split the wood, and, second, do not cut off as little



TURNING BACK THE HEEL COVERING BEFORE TRIMMING THE HEEL FLAT

of the wood as possible, but cut so that, when the two lifts of leather have been nailed on, the heel is exactly the same height as originally. Thus, the cutting depends on the thickness of the leather at hand.

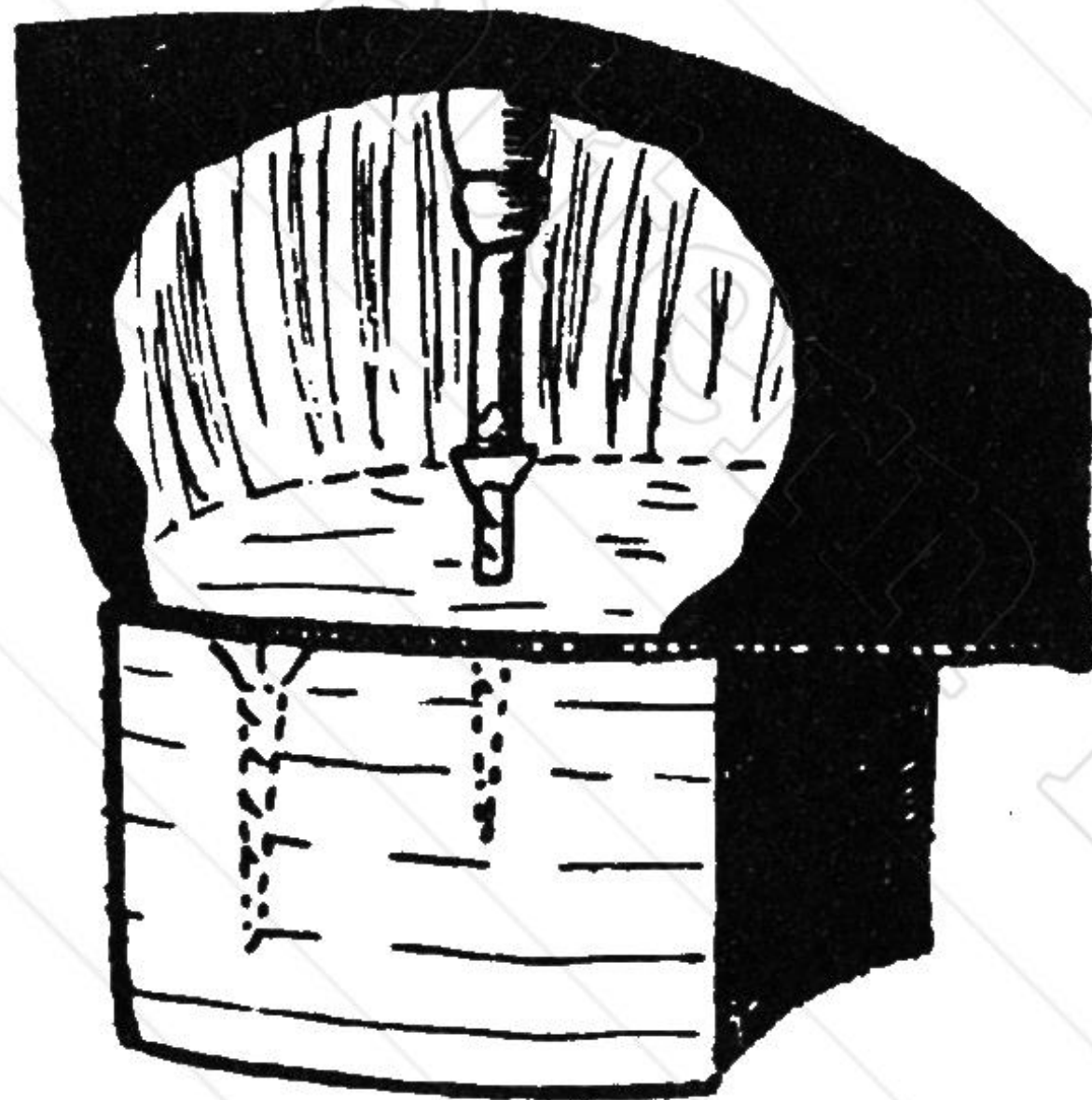
Some wooden heels are leather or cloth-covered. When this is the case, the first thing is to loosen the covering and turn it back to a point beyond where the mending has to be done. Never attempt to remove it entirely. Refixing is done with glue.

SETTING-UP HEELS

31

LOOSE HEELS

Occasionally a heel becomes loose, or it may even fall entirely away from the upper. The best method of refixing it is to lift up the inside sock of the foot and to countersink two holes. In the latter, drive screws equal in length to two-thirds of the height of the heel. They need to be fairly thin screws, because stout ones are likely to drag and twist the leather. Of course, the heads must be driven well below the surface. The sock is, finally, returned to



REPAIRING A LOOSE HEEL

its position and pasted there. The heel should then be as firm as it was when it left the factory.

If the heel is found to be loose when it is taken in hand for setting up, it will be a good idea to insert the screws, as suggested above, and then, before the last lift is put on, to run two long nails through this lift up towards the boot. The metal foot will turn the points. Do this while the sock is folded back. Finally, put on the last lift.

HALF-SOLING WITH RIVETS

BEFORE the handyman sets out to half-sole a pair of boots, he should have gained a certain amount of experience at heeling. Consequently, this chapter is written on the assumption that the reader has already mastered all that has been said about setting-up heels.

As a preliminary, it may be well to explain that soling is never a job for the repairer; it is done in the factory when the boot is made. What the repairer does is to fit a half-sole, which covers all the tread of the boot with the exception of the heel. This point is made clear because we have met several people who regard the term "half-sole" as something in the nature of a patch.

STRIPPING OFF THE USED HALF-SOLE

Before the new half-sole can be riveted on, the used one must be taken off. This part of the work needs care, because much harm may be done if it is performed clumsily. The method of procedure depends on what kind of worn half-sole exists on the boot.

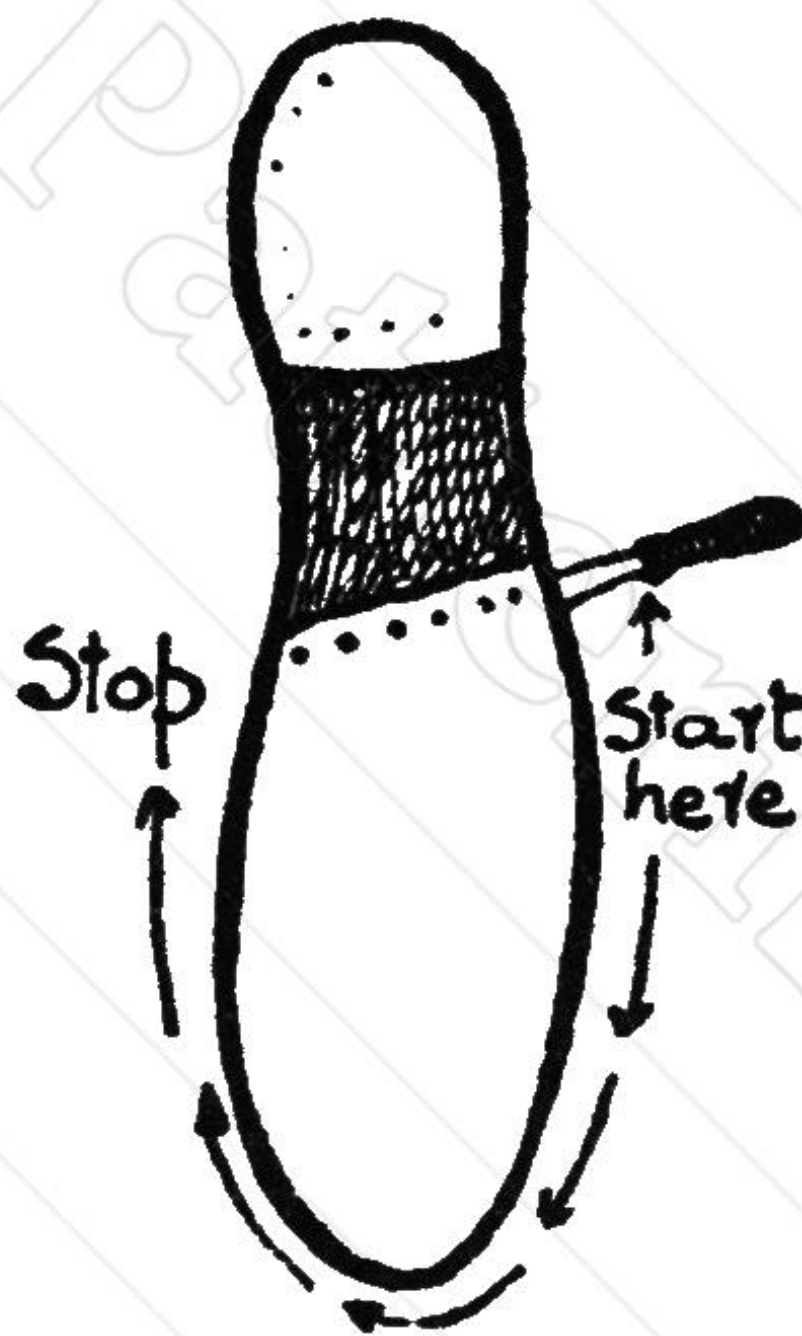
(1) If it has been riveted on, it is removed in exactly the same way as was described for heels; but the cautions which were given in regard to them apply here with even more force, since it is easier to ruin a boot when drawing off a half-sole than a heel.

If the half-sole is difficult to rip off, stand the boot in a shallow bowl of water for five minutes. There is, then, less likelihood of wrecking the boot.

HALF-SOLING WITH RIVETS

33

(2) When dealing with a "screwed" boot, a crowd of screws will be found projecting from the inner sole, on ripping off the outer half-sole in the manner suggested for No. 1. It must be said very definitely that these screws should not be removed, as they keep the boot together. To clear them out of the way, clip off the heads with a pair of cutting pliers.



RIPPING OFF A WORN STITCHED HALF-SOLE

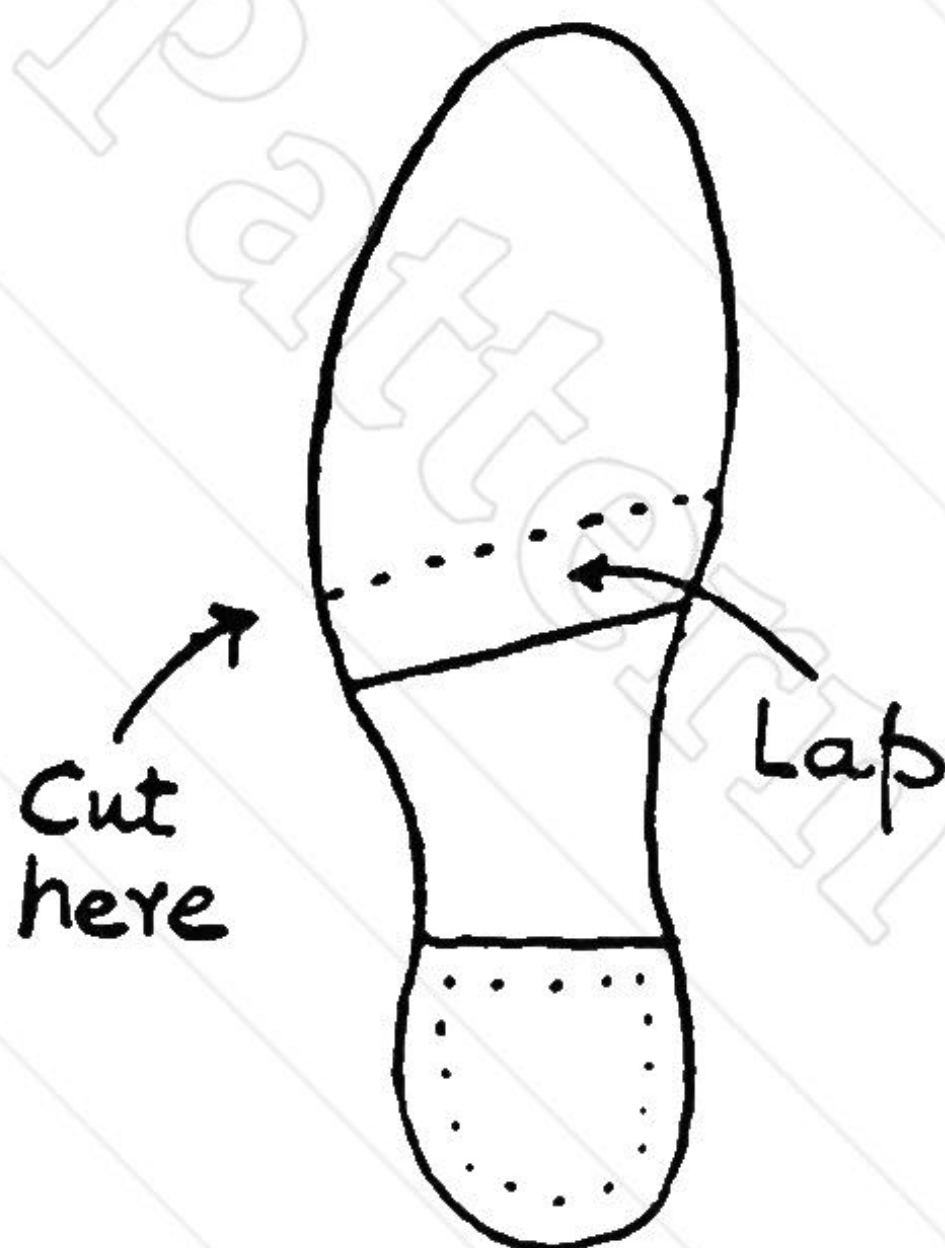
(3) In the case of a hand-sewn boot, force the tip of the special boot-repairer's knife between the middle and top sole at the point where the instep meets the tread. Let it be on the inner joint of the left boot and the outer joint of the right boot. Only force the knife in a matter of three-quarters of an inch and do not let it catch into any part of the inside leather. It should lie comfortably between the two layers.

c

34 BOOT AND SHOE REPAIRING

Now, hold the boot horizontal, with the toe touching your chest, and gently run the knife along until it reaches the toe; then, turn the boot round so that the heel touches your chest and continue with the knife until it again reaches the instep—but on the opposite side to where you began. The half-sole will then drop off.

(4) In the case of a machine-sewn boot, procedure is the same as for No. 3; but when the knife has



DO NOT FORGET TO LEAVE SUFFICIENT LEATHER
FOR THE LAP

travelled about an inch, it will become caught up against what is known as a "blinder." Draw out the blade and push it in again, but about a quarter of an inch farther on. Then continue to cut the stitches until stopped by another "blinder." Proceed in this way until the sole has been encircled and then a slight pull will release the leather.

(5) Where ladies' very light boots are concerned, it will be found that many of them have but one

HALF-SOLING WITH RIVETS

35

sole, and not the usual two. The novice had better clump these, i.e. put a new sole on top of the worn one. If this makes the boot too heavy, he is advised to leave it entirely alone. It will be beyond him.

So far, we have said nothing about releasing that part of the half-sole which joins up to the waist or instep. If the boot has already been repaired, this portion of the leather is held down with rivets, no matter whether it was riveted, sewn or dealt with,



BOOT WITH HALF-SOLE REMOVED

originally, in any other way. A screw driver will force up the nails and the sole will come off completely.

But if the boot has not been previously repaired, the waist and the half-sole are both in one piece of leather. In this case, the sole is disengaged by cutting it off the waist.

Be extremely careful, however, where the cut is made. Leave three-quarters of an inch of the waist leather to

36 **BOOT AND SHOE REPAIRING**

lap under the half-sole. It is very easy to forget that there must be a lap, and the novice not infrequently makes the cut where the half-sole will end; he, thereby, ruins the boot for ever.

The next point to note is that where the cut is made the leather will be fairly thick. To lap another thickness over it would make an inordinate bulge. To overcome this, the leather, where it is cut, is "skived"; that is to say, it is shaved off gently, and instead of ending abruptly, it slopes away gradually.

At this stage, the boot will probably look something like that shown in the diagram on page 35. Examine every bit of it carefully to see that it is in perfect order. If the edging has split away, become loose, or otherwise damaged, hammer in a few nails, known as tingles, to make it firm. They must be very short,—no more than three-eighths of an inch. While you are doing this, also run a line of tingles along the waist line. Feel inside the boot to make quite sure that the tingles have had their points flattened.

A good tip, at this point, is to smear the surface with candle grease, as was suggested on an earlier page, and make it waterproof. The professional does not do this, it is true; but then he has no interest in the boot after it has left his workshop.

THE NEW HALF-SOLE

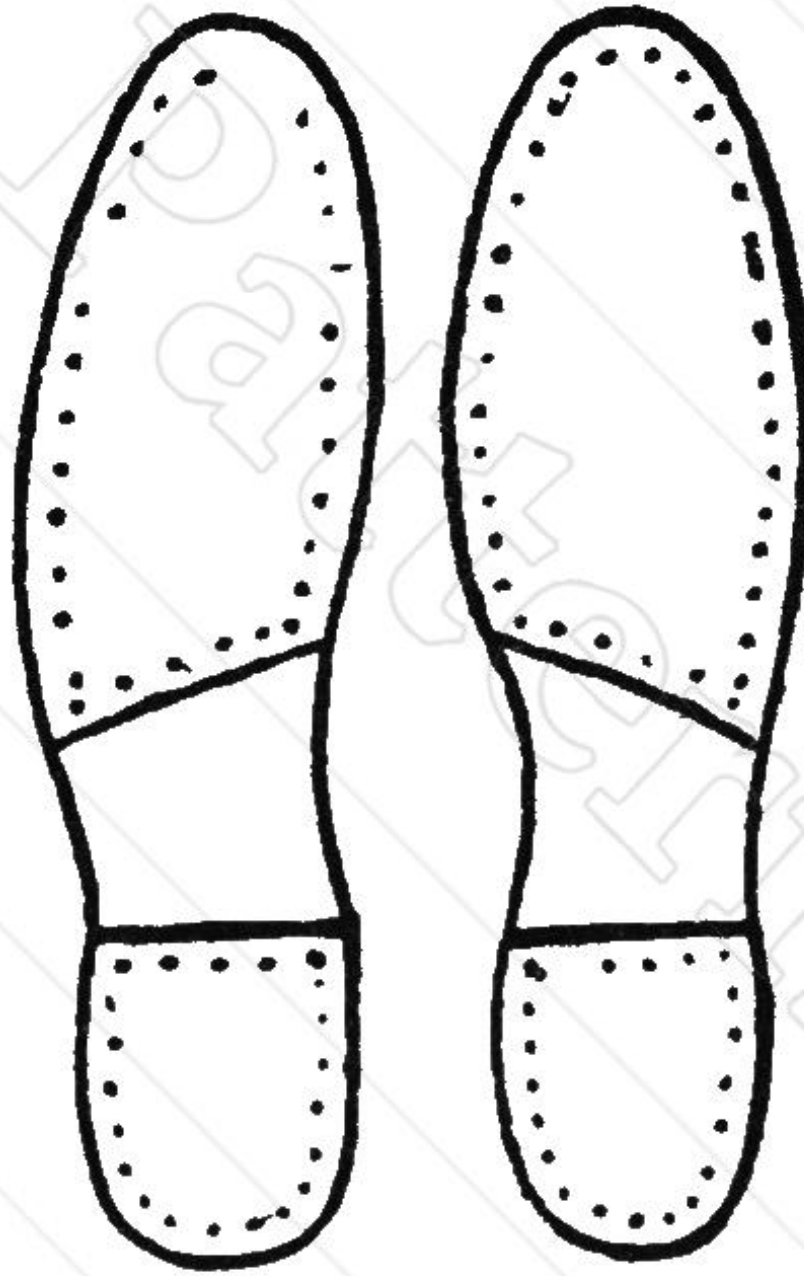
A good deal has been said elsewhere about cutting out the leather and preparing it for the boot. In doing this part of the work, be economical. A paper pattern of the sole may help in the matter, but be careful of two things. Always allow a margin all round the edge for purposes of trimming, and remember that both soles are not alike in shape. To get them correct, cut out one sole from each side of the paper pattern. Of course, it may be still more straightforward to use the two old soles, taken off the boots, as patterns for the new soles. If this is done, do not forget to provide a margin of extra

HALF-SOLING WITH RIVETS

37

leather, as suggested above, and be very careful to allow for the lap at the waist, when using an original sole.

The leather being roughly cut out, place it on the upturned boot and decide its correct position. Then mark the waist line and cut it neatly and finally, remembering that this line does not run horizontally



NOTE THAT THE TWO HALF-SOLES ARE NOT ALIKE—ONE IS THE REVERSE OF THE OTHER

across the boot, but up on one sole and down on the other.

In order that the waist line of the sole should not end too prominently, it is skived on the flesh or under side, just as the waist, itself, was skived on the upper side. Where the two thicknesses meet, there will then be no bulge of leather.

The leather is now dropped into water and hammered, as already explained, then left to dry partially.

38 BOOT AND SHOE REPAIRING

PUTTING ON THE NEW HALF-SOLE

Get out the metal foot and choose the best of the three sizes for the boot that is to be mended. Slip the boot on it and place the metal foot on a kitchen chair; then sit on a second chair, pulled as close up to the first as possible. This arrangement gives a comfortable attitude for work, unless a high bench is available at which the repairer can stand.

Now, take the leather sole, still supple but not running with water, and arrange it, polished side uppermost, on the boot. Be sure that the leather comes well up to the toe and that the instep line is right. Look all round to make quite certain that every part is fully covered. Then drive in a rivet at the centre of the boot. Look again all round; because it is very easy for the leather to slide to one side or the other when the first rivet is hammered.

All being correct, go down to the instep and run a line of rivets along it, putting them closer together than usual. At the two ends, fix three rivets in the form of a close triangle. All this is necessary because the boot bends a good deal at this part, and the bending would cause a weak line of rivets to work loose.

Take care that the metal foot lies firm under the particular part that is being riveted. Unless it does, the points will not be turned properly, and the wearer will be sure to acquaint you of the fact in due course.

Next, go to the toe of the boot and see that the leather curves nicely over the sole. Then put in one rivet exactly in the middle. Do not drive the head in flush with the leather until you have glanced at it sideways to see if it is taking a proper course. Should all be well, hammer the head right down; if you are not satisfied, draw out the rivet and try again.

At this point, the question arises: "How far in from the edge of the sole should the rivets be placed

HALF-SOLING WITH RIVETS

39

and how far apart ought they to be?" They should come about a quarter of an inch from the edge and the same distance apart, one from the other, an exception being made in the case of the instep where they must be half as close again.

We can now proceed with the riveting, and go right round the boot. There is only one thing to trouble us. The sole is not cut exactly to shape; it overlaps at the sides. How are we to know that our



A TIP ABOUT PULLING OUT A RIVET

line of rivets will be a quarter of an inch in, when the sole is ultimately trimmed? This, of course, is a rather difficult matter; but there are ways of overcoming it. The professional guesses, and the amateur will do the same until he has gained a little experience. Until then, some scheme must be devised. There are several; but the best is to cut a paper pattern of the sole, exact size, and then to trim a quarter of an inch off it all round. If this pattern is now placed centrally on the sole, the line where the rivets are to come is clearly indicated. A pencil is used for marking out the line, the pattern is removed and the rivets are driven in along the path traced out by the pencil.

40 BOOT AND SHOE REPAIRING

One further point remains to be said. It is not to be expected that every rivet will take a proper course. Some are bound to be wayward and go in slant-wise. It is a good plan to look at the edge of the boot to see what is happening before the head of a rivet is brought in contact with the leather. It is, then, much easier to withdraw, if necessary. Whenever the pincers are used for this purpose, rest them on a spare piece of leather. They are sure to mark it, and it is far better to disfigure an odd slip than to indent the actual sole.

Trimming and finishing is dealt with in a later chapter.

HAND SEWN HALF-SOLING

MANY amateurs will be well-contented when they can half-sole and heel a pair of boots with rivets. Certainly, they have much to be proud of, since the skill they have acquired will help them to save a good deal of money at regular intervals. But a number of would-be repairers will want to go farther and try to do hand-sewing. We will not disguise the fact that hand-sewing is a good deal harder to perform well than riveting; nevertheless, it is by no means beyond the capabilities of a person who is really handy. If done with reasonable skill, a hand-sewn sole makes a stronger boot than one mended with rivets and is far neater in appearance.

PREPARING FOR THE NEW HALF-SOLE

When a boot is to be half-soled by means of hand-sewing, the first step, as before, is to remove the old sole. This matter has been gone into fully in the previous chapter and need not be discussed again. The sole having been removed, it is necessary to examine the boot carefully and look for weaknesses in the welt or inseam. The stitches which hold these parts are liable to be cut in the ripping-off process, and, unless they are repaired, the boot will rapidly fall to pieces. To repair them, use a wax thread, made according to instructions given later on, and put in new stitches to take the place of those that are defective. A glance at the existing stitches will show exactly how the new ones are to be made and where they are to come. There is just one point

42 BOOT AND SHOE REPAIRING

to note here. Do not be content with stitching up the damaged part only; but continue on at either end for at least half an inch. This binds up the repaired part to the existing sound part.

When the welt and inseam have been made secure, it is advisable to look at the filling of the sole. This is often a layer of felt, neatly spread out to give a comfortable tread. If this is worn or rucked up badly, a new piece should be substituted. Sometimes, however, the filling consists of a composition of ground cork and pitch. In ripping off the sole, some of the compo usually comes away with it and some remains behind. The surface of the boot is then very uneven. If the compo can be picked off the old sole and put back into its place, after being warmed, so much the better; if not, the whole of the mixture ought to be cleared away and its place taken by a piece of felt.

THE NEW SOLE

The new sole is prepared in exactly the same way as though it was wanted for riveting; but it is trimmed almost to its final shape. The surplus that is left all round the edge should be no more than sufficient to allow for a little scraping and finishing off in the final operation. The waist must be trimmed exactly and skived on the under side.

When this has been done, the leather is dropped into water and left to become supple. After about an hour, it is brought out, surface dried, and hardened by the hammering process. If any parts of the flesh face are ragged, they should be shaved off, so that the sewing threads will not catch in them.

The sole is now put on the upturned boot, and two long rivets are run in but not driven home, as they must be withdrawn later on. Put one near the toe and one on the instep line. The leather is next left to dry to the arched shape of the boot, which will take from one to two hours.

HAND SEWN HALF-SOLING

43

At the end of this time the sole is turned to once more, and any little places that have been forced out of shape by the hammering are trimmed up again. This is followed by riveting along the instep line.

CUTTING THE CHANNEL

It is now necessary to point out that when a half-sole is held to a boot by means of sewing, no stitches

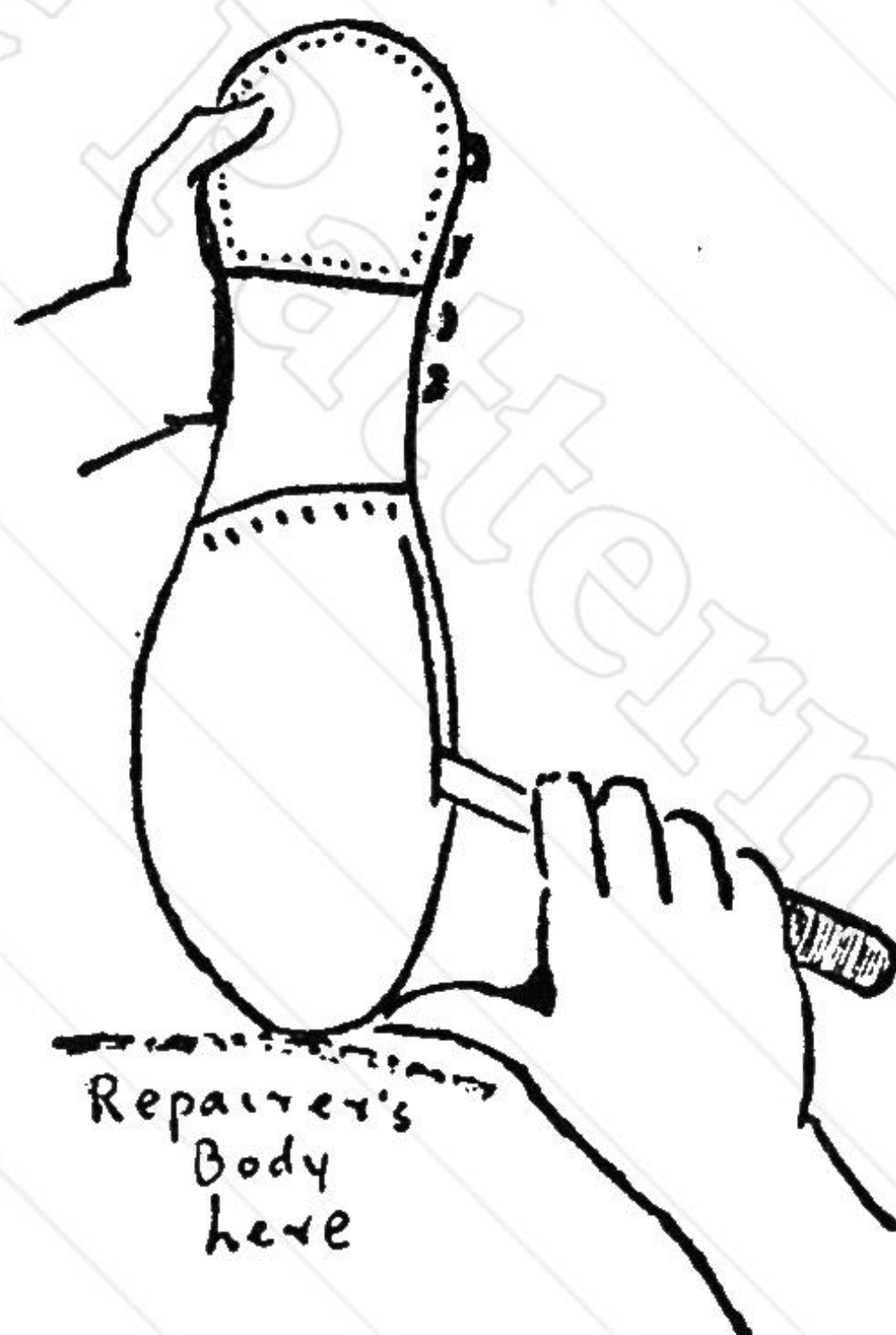


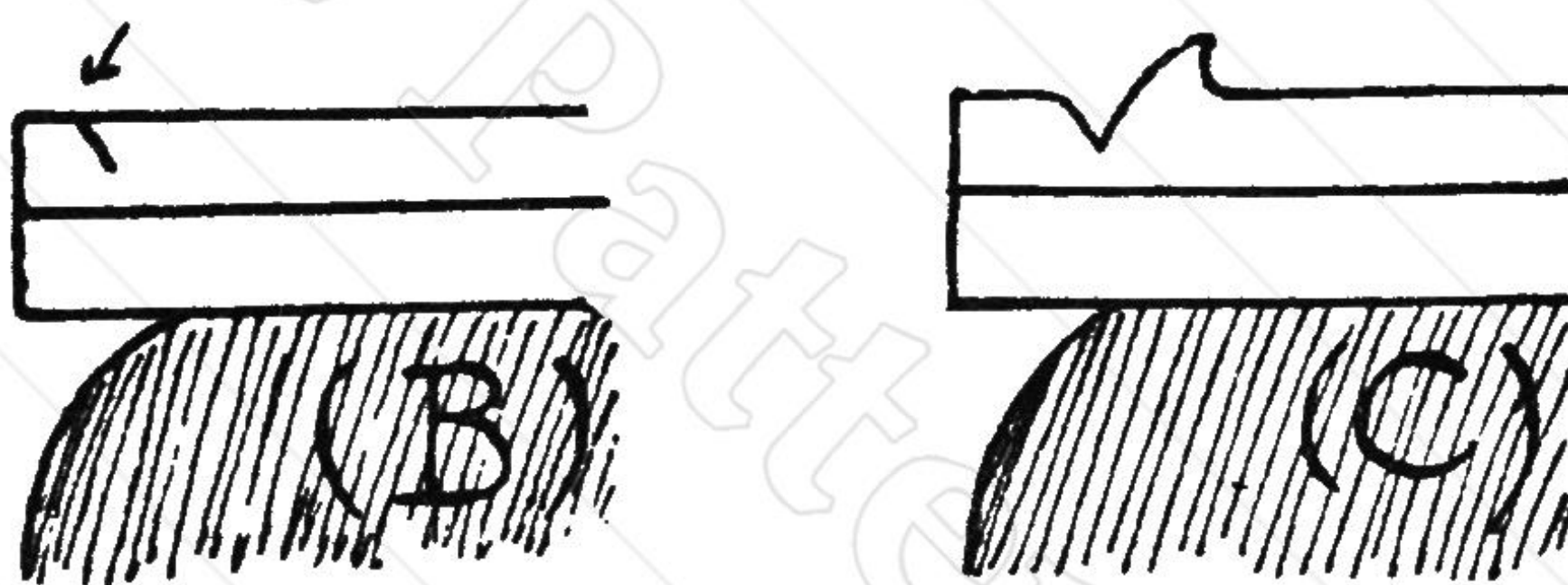
FIGURE A

are visible on the surface. They lie buried in a channel which runs all round the edge of the leather. If they were on the surface, they would wear away in about a day and the sole would fall off.

To cut this channel is the most exacting part of the whole business. Have the leather quite dry and take a really sharp knife, possessing a pointed blade. Hold the boot upwards, with the toe pressed

44 **BOOT AND SHOE REPAIRING**

against your chest and grip the knife as shown in the illustration, A. Start at the instep and then cut into the leather, going no more than half way through its thickness. Let the cut slant inwards, as shown by the arrow in Diagram B. It should be about an eighth of an inch from the edge. Proceed in this manner, forming the channel as you go, until the toe is reached. All the while keep the thumb ahead of the knife (see Diagram A) to steady it.



CUTTING AND OPENING OUT THE CHANNEL

Now turn the boot round and press the heel against your chest; then continue with the cutting until the channel reaches the opposite end of the instep. Before attempting to run this channel round the boot, it will not be a bad plan to cut two or three specimen grooves on an odd piece of leather to test your capabilities, and it will be as well to pencil the path of the channel on the sole before using the knife. The channel being cut, it is now required to open it out in preparation for the stitches. This can be done by forcing a blunt screw-driver into the groove and lifting the leather up, as shown in Diagram C. Be careful over this part of the work, because the fin of raised leather is very fragile and it must not be damaged; also, if it is done clumsily, it will be quite easy to tear completely through the channel and, should this occur, the stitches will not hold.

STITCHING

We now come to the operation of sewing. Sit on a chair, place the upturned boot on your lap, toe towards you, then run a leather strap under the instep of one of your own feet and over the instep of the boot to be half-soled. The boot is held firmly and your two hands are not engaged in any way. It will be best to have a last inside the boot to preserve its shape; but the three-way iron foot is too heavy and awkward, and, unless you possess a wooden shape, you may reasonably proceed with the boot empty.

Now commence the sewing. Take a waxed thread, about two or three yards long, with a bristle at each end, and begin at a point on the edge of the instep where you can get two stitches in before reaching the new sole, and proceed as follows:

(1) Force the tip of a curved awl through the leather so that it just shows in the bed of the channel. To force it further will make too wide a passage.

(2) Withdraw the awl and pass one end of the thread through the hole (see Diagram A on page 46).

(3) Make another hole with the awl and withdraw the awl.

(4) Guided by the bristles, pass both ends of the thread through the hole (see Diagram B), and before pulling them tightly, loop them and so make a knot in the channel.

(5) Continue making stitches, as required, according to No. 3 and 4, until the opposite side of the instep is reached, and then pass the upper thread through the last hole and knot it in the channel.

Wear leather gloves, with the fingers cut off, to prevent the wax chafing the hands.

When the edge of the boot has been ringed around in this way with stitches, allowing six or seven to the inch, proceed into the instep on the opposite side to where you began and make two stitches there.

46 BOOT AND SHOE REPAIRING

Finally, cut the ends of the thread, fill the channel with a stiff paste made of rye flour, and smooth down the lip of the channel. Draw out the temporary rivets and plug the holes with wooden pegs. The boot is now finished, except for the final trimming and the application of heel-ball.

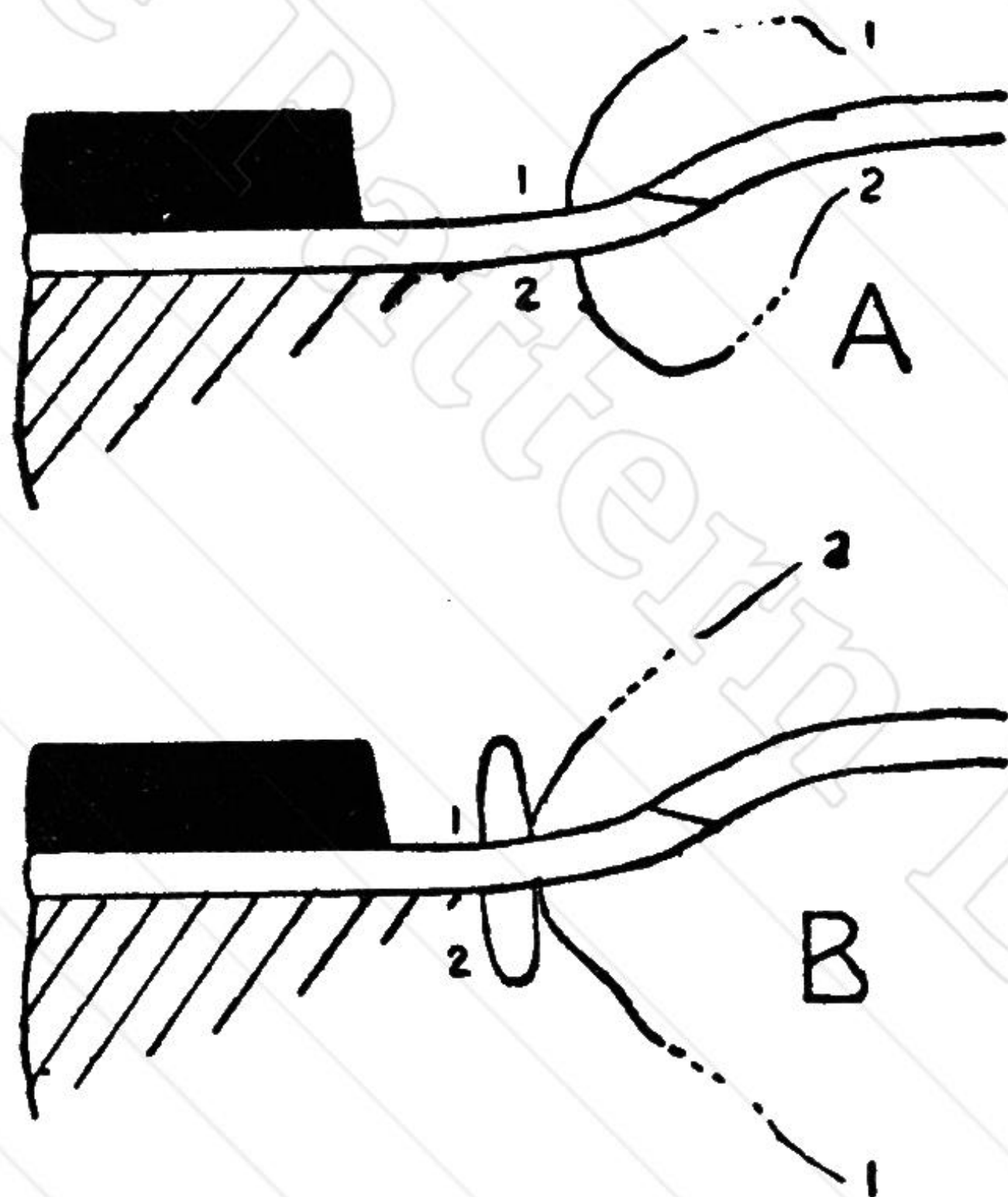


DIAGRAM SHOWING HOW THE STITCHES ARE MADE

MAKING THE WAXED THREAD

Waxed threads, suitable for the work just described, may be purchased for a few pence; but it is far cheaper to make them yourself. First, you will require a ball of hemp or flax, two pig's bristles and

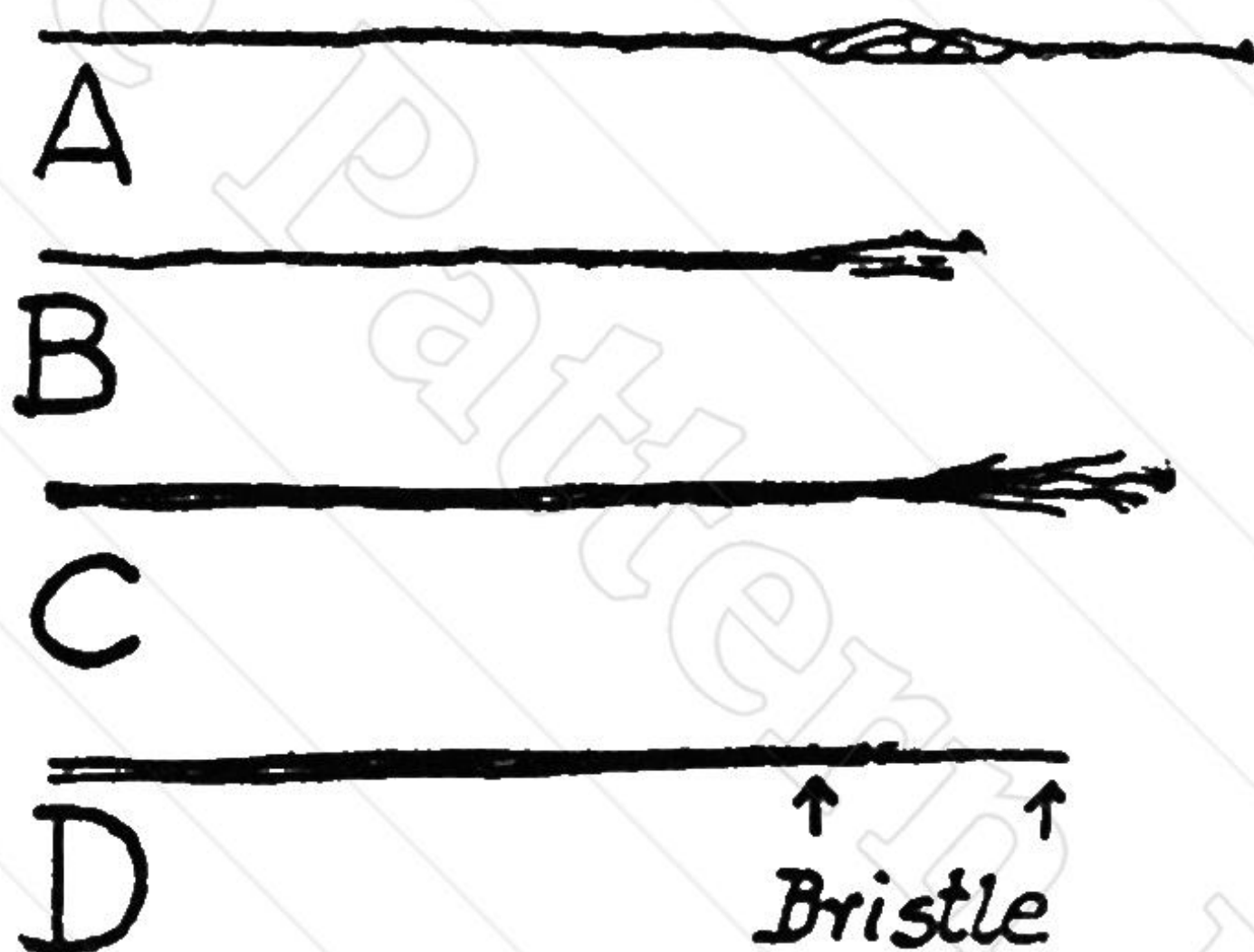
HAND SEWN HALF-SOLING

47

some wax. All these articles can be obtained at any grindery shop.

(1) Take ten strands of hemp, when the thread is required for men's boots, or eight for ladies', each about three yards long.

(2) Place one of the strands on a flat surface, such as a table, and roll one end backwards and forwards



under the palm of the right hand, so that a part near the tip becomes unravelled. (See Diagram A.) Then hold the strand taut in both hands and snap off the tip. (See Diagram B.) Discard the short length. Do this to all the strands and to both ends.

(3) Now, assemble all the strands together, side by side; but each tip should project from the bunch a slightly different amount. (see Diagram C.)

(4) Hold the bunch in the middle and roll the strands together, so that they form one thread. Work up and down the whole length until all strands are incorporated.

(5) Grip a piece of wax in the palm of the hand and draw the thread through it, then run the thread through a cloth to get it evenly waxed.

48 BOOT AND SHOE REPAIRING

(6) Carefully pull out the strands, at each end, for about an inch of the length, and bury in them a bristle. Then remake the tip, using plenty of wax, so that the bristle holds well (see Diagram D). There is a much more complicated way of locking the bristles to the thread; but the method here described is quite satisfactory and far easier.

The wax-thread is now ready for use. Note that it should be run through the wax after every ten or a dozen stitches, or sooner, if it begins to fray.

FINISHING SOLES AND HEELS

NOBODY cares to wear boots that look as though they were mended at home. Accordingly, it is little use doing a repair job, even strongly, unless it is given a workman-like finish. Fortunately, the art of finishing is not difficult to acquire, and a few inexpensive tools, mixed with a fair amount of patience, will go a long way towards providing the professional touch, which is so necessary.

TRIMMING THE EDGE OF THE HALF-SOLE

Before the half-sole (or heel) of a boot is trimmed to shape, it should be left until it is quite dry. The leather, then, will cut neatly. Some workers, we know, prefer to do the cutting while the leather is still wet and supple; but in this condition it is apt to pile up in front of the knife, and bend and twist rather than cut.

A good way to shape the edge of the half-sole is to stand the boot flat on the bench or table, and then to run the knife several times round the edge, using the edge of the welt as a guide. As the cutting proceeds to the toe, the heel should be raised, so that the toe-part comes flat on the bench. The knife has an uncanny desire to bend under the boot; but this must be corrected, or the sole will be cut too small and the neat effect spoiled. If an absolutely vertical cut cannot be provided, let the blade bend outwards, because the surplus leather that is then left behind may be shaved off subsequently.

In the case of a light sole, the above method of cutting will be sufficient to clear away most of the

50 **BOOT AND SHOE REPAIRING**

surplus leather. With a thick sole, however, it is advisable to trim half way through the substance, in the manner suggested, and then to finish the cutting, as follows. Hold the boot with the toe against your chest, and the edge of the sole uppermost. Start at the instep and begin to trim with the knife, using the groove, already cut, to help you along. When the toe is reached, put the heel again to your chest and continue the cutting until the opposite end of the instep is reached. Always keep the fingers of your left hand behind the knife, because if it slips, and it probably will, you will then be safe.

The new half-sole is now shaped to the outline of the boot, but it is not yet finished. There are places where you altered the angle of the knife to get it to travel along more easily, and there are other spots where you did not keep quite up to the edge of the welt. These must be smoothed out, and this can be done quite easily by using the rasp, when a great deal has to be cleared away, or the scraper, when much less has to be removed.

In smoothing down the thickness of the sole, a slight but very real fin of leather becomes formed on the edge of the sole. It is only a small matter, but it will spoil the appearance of the work if allowed to remain. Skim it off with the knife and then give a final rub up with glass-paper.

At this stage it is advisable to slip the boot on the metal foot, and :

- (1) If the sole was riveted, to tap every rivet well down into the leather.
- (2) If the sole was hand-sewn, to smooth down the channel. This is done by running a round rod of wood over the line that was cut.

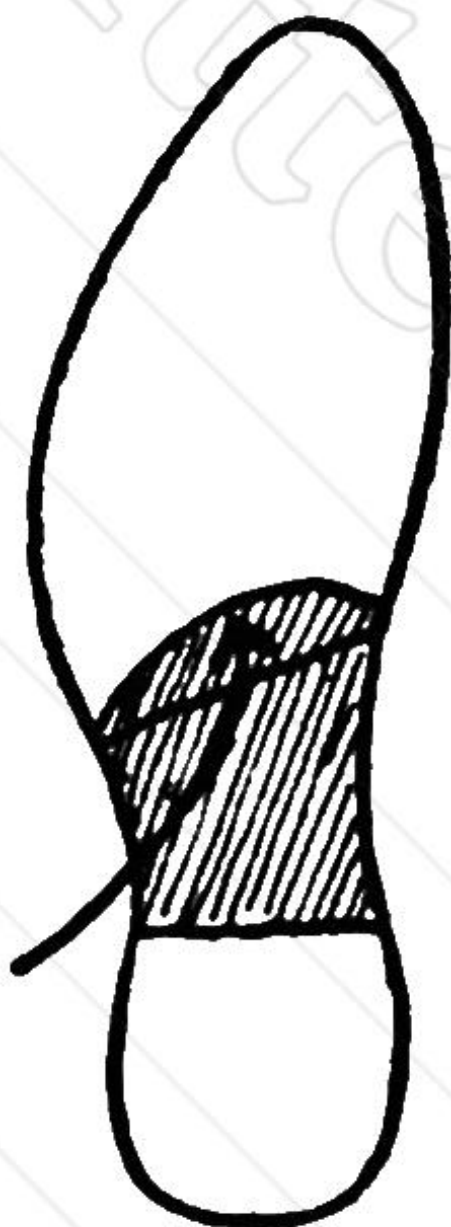
Then put a hand into the boot and search for up-standing rivet-points. Any that may be present should be turned well down by hammering.

FINISHING SOLES AND HEELS 51

The next step with professional menders is to go over the face of the sole with the scraper, or to rub away the glazed surface with glasspaper, and then to apply a "bottom wash," made by mixing about four parts of milk with one of liquid ammonia. When dry, the surface is given a shine by rubbing it with a round rod of wood. This makes the sole look well; but it has a doubtful value from the point of view of wear.

INKING AND HEEL-BALLING

In order to tone down the raw effect of the edge of the sole, it must be inked. Ordinary black writing



PARTS OF THE SOLE THAT REQUIRE INKING. THE EDGE, WHICH IS NOT SHOWN, MUST BE DONE ALSO

ink serves for black boots, as long as blue-black ink is not used, but brown ink, purchased from the grindery shop, is required for brown boots. Occasionally, the leather will tone with brown boots without any inking at all.

There is no need to describe the way the expert cobbler applies the ink, because, if it is put on badly and it runs over to the clean sole, it does not matter since nothing will show. The only parts requiring ink are the edge of the sole and heel, the instep and the arched space, shown in the accompanying illustration.

The inking being done, the next step is to apply the heel-ball. This is a form of wax, coloured black or brown to match the boot, which is put on to make the join between the welt and the sole, and to give the edge of the leather a glazed hard surface. It is used for the sake of appearances, and in no wise does it affect the wearing qualities of the work.

There is no trouble in laying the heel-ball, once the method is understood. For the work, a glazing or burnishing iron is needed. This is a stout stem of metal with a curved head, the whole forced into a cheap wooden handle. There are various patterns, each serving for a particular kind of job, except the one illustrated on p. 21, which answers practically for all forms of heel-ball work. It can be bought for sixpence.

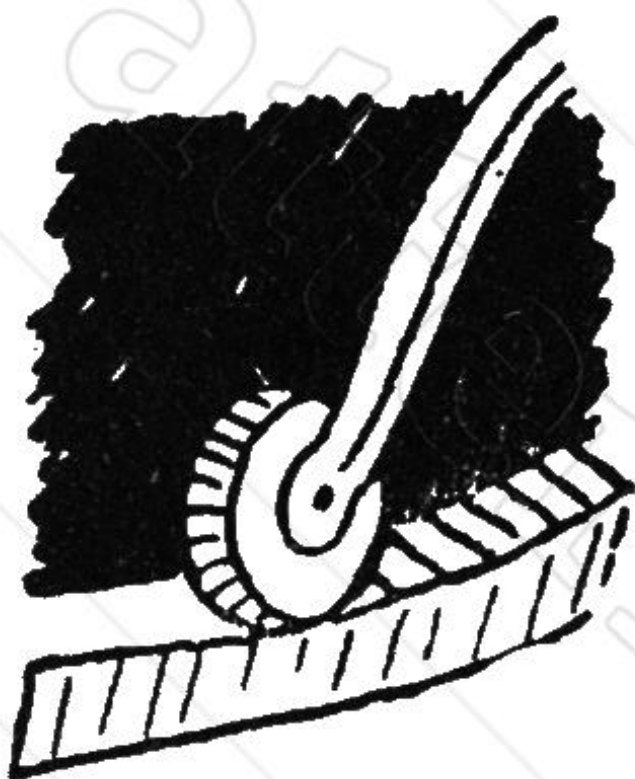
This is how the heel-ball is applied: First, the iron is heated until it will just scorch a piece of paper and no more; it must not be red-hot or anything approaching it. When in this condition, the head of the iron is brought in contact with the heel-ball and some of the wax composition flows on to it. Deftly, the iron is brought to the edge of the boot and run along a short length of it. Some heel-ball will stick to the leather. The iron is again rubbed on the wax and a little more of it is picked up by the head. This, too, is transferred to the edge of leather. After about three or four repetitions, the iron will be too cold to melt the wax and must be re-heated; then the process of heel-balling the edge of the sole is continued.

When the leather has been completely covered with wax, it will be found that the substance lies on the

FINISHING SOLES AND HEELS 53

edge in numerous waves. The less your skill, the more waves there will be; but that matters very little, because, by again heating the iron slightly and running it all round the boot without stopping, the waves disappear. Do not heat the iron too much for this part of the work, or not only will the waves disappear but so will the heel-ball, as well.

Now examine the edge. There may be little places where the heel-ball has been applied too thinly, or where the join between the welt and sole is still visible. If any such defects are noticed, put them right by applying more heel-ball.



FUDGE-WHEEL MARKING THE WELT

When you are satisfied with the layer of wax take a piece of velvet, wrap it round the thumb, pile side outwards, place the covered thumb near to the fire, and, as soon as it is warm, rub it vigorously along the surface of heel-ball. A splendid shine is produced, which is permanent.

The boot is now finished; but should an additional professional touch be desired, heat the fudge wheel and run it along the surface of the welt. This makes a mark which imitates stitching. Before the boots are put on, they should be thoroughly aired, because a certain amount of wet material has been used in the various operations.

PATCHING UPPERS

FEW articles of personal attire look worse than a boot with a split and bulging seam, or a toe-cap, cracked and gaping. Defects to uppers are very noticeable, and must be remedied quickly. Accordingly, the amateur cannot afford to be satisfied when he knows how to do half-soling and heeling; he must go farther and learn to repair the upper part of boots as well.

The troubles which afflict the uppers are of a very varied nature; but roughly speaking, they can be repaired in one of two ways—either by sticking or sewing. Whenever it can be used, the first method should be chosen, because it makes a less obvious or even an invisible repair.

INVISIBLE PATCHING

We will suppose that a boot has split close to the toe-cap. This frequently occurs owing to the continual bending required of the leather in walking. To stitch on a patch in such a prominent place would be to make the boot look dowdy at once; but to cover the crack with an invisible strip of leather would not detract in any way from its appearance. Such a repair is not in the least difficult.

The first thing is to select a thin piece of supple leather that will reasonably match the leather used for the uppers. Cut it as small as possible, considering the size of the split, and curve all the edges. Now turn the patch over and, with a sharp knife, skive the edges—that is to say, shave them gently

PATCHING UPPERS

55

down until they taper away to nothing. The thinning should not reach the leather that is to cover the split.

Next, put the patch on the defect, where it is to be fixed, and mark, on the boot, its outline in pencil. Take away the patch and scratch a ring on the surface within the outline, using the tip of a pocket knife for the purpose. The aim should be to remove as much leather in this ring as the patch will add to it. Having done this, rub the under-side of the patch and the whole of the area within the pencilled



INVISIBLE PATCHING—THE AREA, SHOWN BY DOTTED LINES, WHICH MUST BE SCRAPED

line with glass-paper, so that a roughened surface is provided.

Now, procure some gutta-percha solution, such as grindery shops supply. Warman's solution is used by many cobbler's. Stand the bottle for a few minutes in a basin of hot water, then apply the solution to the back of the patch and the part of the boot that is to receive it. In a few minutes the liquid will dry. When it does, apply a fresh coat and again wait for it to dry. It is now ready; hold the boot and the patch in front of a fire—not

56 **BOOT AND SHOE REPAIRING**

too close—and, the substance becoming tacky, place the patch in its position. Smooth it down with a finger, and if any part has a tendency to curl up, press it down for a few moments.

If those hints are properly carried out, the leather will stick with great strength and without any undue trouble. When trouble does occur, it is generally because (a) the surfaces were not sufficiently roughened, (b) the surfaces were greasy, or (c) the gutta-percha was applied too wet.

Before the patch has dried hard, run the glazing iron over it, but use it as cold as possible, and coat the leather with heel-ball. Move the iron from the centre of the patch to the edges and do not run it across from end to end, because this will pick up the fine edges. Get the outline charged with heel-ball, then lightly rub a rag over the patch and clear away the heel-ball on the surface. If done well, the patch will be invisible.

SEWING

When a line of stitches in the uppers breaks away, sewing must be resorted to in order to repair the defect. Sewing is also a means whereby patches may be fixed. If the trouble lies in some part of the boot where both sides can be seen, the work calls for no particular comment. A waxed end or a stout thread is used in conjunction with an awl or a needle. Should, however, the defect occur near the toe, or in a place that cannot be seen from the inside, what is known as "blind stabbing" must be resorted to. For this work a fine-pointed awl and a waxed thread, tipped at both ends with a bristle, is needed.

The method of working is as follows: The awl first punctures a hole through the leather; then one end of the thread is passed in and gripped by the left hand, which is inside the boot. A second hole is now made by the awl; but this time the awl is

PATCHING UPPERS

57

partly withdrawn. The left hand, still inside the boot, grips the inserted end of the thread and manœuvres it until the bristle lies along and slightly beyond the index finger. The tip of the finger searches for the tip of the awl, and on finding it, pushes the bristle forwards, along the side of the awl, so that it emerges from the boot. When the thread is brought fully out, the opposite end is passed in through the same hole. Just before the two ends are drawn tightly together, they are looped. Now the awl makes a third hole, and the inserted end of the thread is again manœuvred until it finds the awl and is passed out of the boot, as before. In this way, the stitching is continued until the broken seam has been made good. When the sewing is completed, the boot is slipped on a last and the stitches are gently hammered. The repair should hardly show.

MISCELLANEOUS HINTS

CRÊPE SOLES

Soles made of this material are a nuisance in wet weather. The wearer is apt to slip or fall because he cannot get a grip on the wet pavement. To overcome this, cut ridges in the crêpe, an eighth of an



GROOVES CUT ON A CRÊPE SOLE

inch deep and an inch apart, their direction being from side to side across the sole. Do not let the cuts reach the edge of the boot. They should stop short half an inch away. There will be very little slipping when a sole has been treated in this manner.

MISCELLANEOUS HINTS

59

SQUEAKING BOOTS

A boot that squeaks is a source of considerable annoyance. The noise is caused by the outer sole rubbing over the inner sole, each time the foot bends the boot. Usually, the trouble is overcome by running three fairly long rivets into the sole down the centre line. The rivets should be long enough to draw the two soles permanently together and to permit of being turned over on the inside of the boot.

Much the best method of curing the trouble is to place a thin layer of felt between the inner and outer sole. No noise is then possible; but this can only be done when re-soling.

PATCHING A SOLE

When a small area, only, of a sole is worn, a patch is often sufficient to give the boot a new lease of life. Cut a piece of leather to fit over the defective part and to extend well beyond all round. Skive the edges, except where they come to the side of the sole, and fix with rivets. Do not wear the boots in wet weather, as they will not be water-tight.

COBBLER'S PASTE

Paste is often required for odd jobs, such as sticking down the channel of hand-sewn soles or for fixing a sock that is apt to ruck up. Buy half a quartern of rye flour and keep it in an air-tight tin. When a little paste is wanted, put a small quantity of flour in an egg-cup, kept for the purpose, and mix with boiling water. It should be stiff. As it does not keep well, make only sufficient for immediate needs.

FITTING AN EYELET

When an eyelet falls out of position, it is usually because the hole in the surrounding leather has grown too large to hold it. More often than not

60 **BOOT AND SHOE REPAIRING**

the defect may be remedied in the following way: Take the eyelet, and, with a pocket-knife, straighten out the claws which are turned over on the underside. Be careful that you do not break them off. Now, push the eyelet into its proper position, but before turning over the claws again, fit on a very small piece of thin leather. Then hammer over each claw separately. The thin leather will stop the eyelet working its way out through the front now.

VARIOUS

The man who invented the maxim, "A stitch in time saves nine," must have been thinking of boot repairs.

If possible, refrain from wearing the same pair of boots on two consecutive days.

When not being worn, a boot should be put on a tree or stretcher. This will help to keep its shape.

Do not put a tree in a boot immediately the latter is taken off the foot. Allow at least an hour for airing.

A wet boot wears more quickly than a dry one. Therefore, apart from considerations of health, a boot that has not thoroughly dried should not be put on.

In drying boots, do not put them close to a hot fire. The excessive heat will dry out the natural oils of the leather and they will crack later on.

When a boot is put to dry, lie it on its side. The air and warmth can then reach the bottom of the sole as well as the inside.

Never keep boots in a cupboard in which there are hot-water pipes.

A coat of varnish applied to a sole, and then a dusting with fine sand, will considerably add to the life of a school-boy's boot, especially if he is heavy on his feet.

In very wet weather, smear dubbin around the welts and along the edges of soles. This will keep

MISCELLANEOUS HINTS

61

out the water. If dubbin cannot be obtained when wanted, use a thick vegetable oil, such as olive or castor oil.

Muddy boots should be wiped free of the mud while it is still wet. If allowed to cake on, it is harder to brush away, and it also helps to age the leather.

If the tag comes off a lace that is otherwise good, do not throw it away. Make a new point with sealing-wax of an appropriate colour.

A lace will last much longer if its position in the boot is slightly altered from time to time. The wear comes in different places then, not always in the same spot.

When a shoe slips up and down and so wears out the sock or stocking, paste a piece of velvet inside the stiff part of the upper. Unless the fit is much too large, the slipping action will be cured. See that the velvet is quite smooth and free from creases, and do not use any form of glue, as the heat of the foot will make it soft and the sock will stick.

To darken light brown boots, apply a solution of milk and liquid ammonia. Almost any depth of colour may be obtained by repeating the applications until the desired shade is reached. Do not put on the solution while the laces are in the boots.

To restore the new appearance of brown boots, wash in warm water containing a lather of soap, and then go over the surfaces with a rag dipped in methylated spirit.

To turn brown boots black, rub the surfaces with fine pumice powder until all the shine has disappeared; then paint on two or three coats of fixed Indian ink. When dry, shine with a good polish.

Patent leather shoes and boots should be slightly warmed in very cold weather before they are put on. This makes them less liable to crack.

If a boot is too tight fitting, the best way to ease it is, first to wet it, and then to use an expanding last.

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